

AMTECH SYSTEMS INC  
Form 10-K  
December 12, 2007

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

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**FORM 10-K**

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(Mark One)

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

For the fiscal year ended: September 30, 2007

OR

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**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: 0-11412

**AMTECH SYSTEMS, INC.**

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(Exact name of registrant as specified in its charter)

Arizona

86-0411215

(State or other jurisdiction of incorporation or organization)

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

131 South Clark Drive, Tempe, Arizona

85281

(Address of principal executive offices)

(Zip Code)

**Registrant's telephone number, including area code: 480-967-5146**

**Securities registered pursuant to Section 12(b) of the Act: None**

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

**Common Stock, \$0.01 Par Value**

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(Title of Class)

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

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

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

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

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

Large accelerated filer ☐

Accelerated filer ☐

Non-accelerated filer ☒

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

As of March 31, 2007, the aggregate market value of the voting stock held by non-affiliates of the registrant was approximately \$47,431,000, based upon the closing sales price reported by the NASDAQ Global Market on that date.

As of December 6, 2007, the registrant had outstanding 9,053,923 shares of Common Stock, \$0.01 par value.

### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Definitive Proxy Statement related to the registrants 2008 Annual Meeting of Shareholders, which Proxy Statement will be filed under the Securities Exchange Act of 1934, as amended, within 120 days of the end of the registrant's fiscal year ended September 30, 2007, are incorporated by reference into Items 10-14 of Part III of this Form 10-K.

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## FORWARD-LOOKING STATEMENTS

Certain information contained or incorporated by reference in this Annual Report on Form 10-K is forward-looking in nature. All statements included or incorporated by reference in this Annual Report on Form 10-K, or made by management of Amtech Systems, Inc. and its subsidiaries ("Amtech"), other than statements of historical fact, are hereby identified as "forward-looking statements" (as such term is defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended). Examples of forward-looking statements include statements regarding Amtech's future financial results, operating results, business strategies, projected costs, products under development, competitive positions and plans and objectives of the Company and its management for future operations. In some cases, forward-looking statements can be identified by terminology such as "may," "will," "should," "would," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in the section entitled "ITEM 1A. RISK FACTORS." These and many other factors could affect Amtech's future operating results and financial condition, and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Amtech or on its behalf.

All references to "we," "our," "us," or "Amtech" refer to Amtech Systems, Inc. and its subsidiaries.

## PART I

### ITEM 1. BUSINESS

Amtech was incorporated in Arizona in October 1981, under the name Quartz Engineering & Materials, Inc. We changed to our present name in 1987. We conduct operations through four wholly-owned subsidiaries: Tempres Systems, Inc., a Texas corporation with all of its operations in The Netherlands, acquired in 1994, also referred to herein as Tempres Systems or Tempres; P.R. Hoffman Machine Products, Inc., an Arizona corporation based in Carlisle, Pennsylvania, acquired in July 1997, or PR Hoffman; and Bruce Technologies, Inc., a Massachusetts corporation based in Billerica, Massachusetts, acquired in July 2004, or Bruce Technologies; and R2D Ingenierie SAS, or R2D, a French corporation located near Montpellier, France, acquired in October 2007. See Exhibit 21

Subsidiaries for a complete list of our subsidiaries.

We are a leading supplier of horizontal diffusion furnace systems used for solar (photovoltaic) cell and semiconductor manufacturing, and are recognized in the markets we serve for our technology and our brands. We operate in two business segments: (i) semiconductor and solar equipment and (ii) polishing supplies. Our semiconductor and solar equipment is sold under the well-known and respected brand names of Tempress Systems and Bruce Technologies, which have customers in both the semiconductor industry and the solar industry. Within the semiconductor industry, we provide equipment to manufacturers of analog, power, automotive and microcontroller chips with geometries greater than 0.3 micron, denoted as  $\mu$ , a strategy we believe minimizes direct competition with significantly larger suppliers of semiconductor equipment. Within the solar industry, we provide diffusion and automation equipment to solar cell manufacturers. Under the PR Hoffman brand, we believe we are also a leading supplier of insert carriers to manufacturers of silicon wafers, and we provide lapping and polishing consumable products as well as equipment used in various industries.

We have been providing manufacturing solutions to the semiconductor industry for over 30 years and are leveraging our semiconductor technology and industry presence in an effort to capitalize on growth opportunities in the solar industry. Our customers use our furnaces to manufacture semiconductors, solar cells, silicon wafers and microelectromechanical systems, or MEMS, which are used in end markets such as telecommunications, consumer electronics, computers, automotive, hand-held devices and solar industry products. To complement our research and development efforts, we also sell our furnaces to research institutes and universities.

For fiscal 2007, we recognized net revenue of \$46.0 million, which included \$12.5 million of solar revenue or approximately 27% of our total revenue. These results compare to \$40.4 million of net revenue for fiscal 2006, which included \$2.8 million of solar revenue or approximately 7% of our total revenue. Our order backlog as of September 30, 2007 and 2006 was \$23.2 million and \$13.6 million, respectively, a 71% increase. Our backlog as of September 30, 2007 included approximately \$17.4 million of orders from our solar industry customers compared to \$7.6 million of orders from our solar industry customers as of September 30, 2006. Because our orders are typically subject to

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cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales in subsequent periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders.

Orders from the solar industry, which consist of backlog and shipped orders, totaled \$21.4 million during fiscal 2007, compared to \$8.0 million and \$3.8 million in fiscal 2006 and 2005, respectively.

We expect the solar industry to continue to grow as a result of greater interest in environmentally friendly energy alternatives, increased costs of fossil fuels and increased global demand for electricity, as well as the solar industry's efforts to reduce manufacturing costs and concern over the world's dependence on oil. We plan to continue capitalizing on this trend by improving our existing products and expanding the number of process steps for which we provide manufacturing equipment to the solar industry. We intend to accomplish this by increasing our solar sales and marketing activities and by acquiring and developing additional products for this industry.

For information regarding net revenue, operating income or loss and identifiable assets attributable to each of our two business segments, see Note 10 of the Notes to Consolidated Financial Statements included herein and Item 7 of this Annual Report. For information of the products of each segment, see "Semiconductor and Solar Equipment Segment Products" and "Polishing Supplies Segment Products" within "Item 1. Business".

## RECENT DEVELOPMENTS

*Acquisition of Solar Cell Automation Technology.* On October 8, 2007, through our wholly-owned subsidiary, Tempress Holding B.V., we acquired R2D Ingenierie, or R2D, a solar cell and semiconductor automation equipment manufacturing company, located near Montpellier, France. R2D has provided solutions to the solar and semiconductor industries since 1989 and recognized net revenue of \$4.9 million in 2006. The automation products sold by R2D are used in several steps of the semiconductor manufacturing processes and for the solar diffusion process. We believe R2D's automation know-how provides a significant point of differentiation from our competitors and provides us the capability to expand the automation solutions we are able to provide to our current and future solar industry customers. We believe the acquisition of the technology and business of R2D

enhances our growth strategy by allowing us to increase our sales by offering an integrated system under the Tempress brand to the solar industry.

Under the agreement, we acquired all of the outstanding shares of R2D for a total purchase price of approximately \$6.1 million and made a working capital infusion of \$1.0 million that was used to satisfy certain outstanding obligations. The purchase price includes significant contingent incentive provisions tied to R2D's successful product improvements, production and technology delivery. Additionally, R2D's key personnel have signed three-year employment agreements.

*Partnering to Develop and Market an Antireflective Coating System for Solar Cells.* In April 2007, we entered into a licensing and manufacturing agreement to develop and market an antireflective coating system for solar cells with PST Co., LTD., a South Korean producer of vertical thermal processing systems for high-end memory-chip semiconductor applications. This plasma enhanced chemical vapor deposition, or PECVD, system is used in high volume solar cell manufacturing, and is an important step in the solar cell manufacturing process, as is our diffusion process. The licensing agreement allows us to market PST's existing and future PECVD systems to high-volume solar cell manufacturers throughout the term of the agreement, which we believe will enable us to develop new customer relationships. The royalty free, 10-year licensing agreement will enable us to sell this product to our solar customer base through our extensive global sales and marketing network on an exclusive basis, with the exception of sales in Korea and to one existing Japanese customer of PST, for which PST retains exclusive rights.

*Expansion of Solar Manufacturing Plant Capacity.* In March 2007, we acquired a 48,000 square foot manufacturing plant located in Vaassen, The Netherlands, near our existing plant where most of our solar cell and semiconductor equipment is currently manufactured. This facility, which will replace our current facility, significantly increases our European manufacturing capacity, and we believe it will improve the operating efficiencies of both our solar cell and semiconductor equipment manufacturing in fiscal 2008.

*Penetration of the Asia-Pacific Market.* We have continued to increase our sales into the Asia-Pacific market and we expect further growth in export opportunities to this region. In fiscal 2007, our sales into the Asia-Pacific market increased by 44% compared to fiscal 2006, driven primarily by sales to our solar industry customers. The Asia-Pacific region continues to be an important and expanding market for us because of the continued migration of solar cell and semiconductor manufacturing to countries in that market.

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*Partnering to Manufacture Advanced Vertical Microwave System.* In May 2007, we entered into a manufacturing agreement with DSG Technologies, a California-based developer of low temperature, microwave heating and curing systems used in fabricating integrated circuits. Under this agreement we expect to manufacture a vertical microwave reactor system that utilizes both our small-batch vertical furnace platform and DSG's microwave heating technology. This new product is designed to be used for the curing processes on advanced sub-50nm semiconductor devices. This technology may open new markets for our small batch vertical furnace.

## COMPETITIVE STRENGTHS

We believe that we are a leader in the markets we serve as a result of the following competitive strengths:

*Leading Market Share and Recognized Brand Names.* The Tempress, Bruce Technologies and PR Hoffman brands have long been recognized in our industry and identified with high-quality products, innovative solutions and dependable service. We believe that our brand recognition and experience will continue to allow us to capitalize on current and future market opportunities in the solar industry.

We have been providing horizontal diffusion furnaces and polishing supplies and equipment to our customers for over 30 years. We have sold and installed over 900 horizontal furnaces worldwide and benefit from what we believe to be the largest installed customer base in the semiconductor industry, which we believe offers an opportunity for replacement and expansion demand. Customers that have purchased our furnaces can leverage their investment in training, spare parts inventory and other costs by acquiring additional equipment from us. We also have an extensive retrofit, parts and service business, which typically generates higher margins than our equipment business.

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*Experienced Management Team.* We are led by a highly experienced management team. Our CEO has over 34 years of industry experience, including 26 years with our company. Our four general managers have an average of over 19 years of semiconductor and solar industry experience and an average of 17 years with our company (including our predecessor companies).

*Established, Diversified Customer Base.* We have long-standing relationships with many of our top customers, which we believe remain strong. We maintain a broad base of customers, including leading solar cell manufacturing companies, as well as semiconductor and wafer manufacturing companies. During fiscal 2007, our largest customer accounted for approximately 13% of our net revenue and our top 10 customers collectively represented approximately 52% of our net revenue. In fiscal 2006, our largest customer accounted for approximately 17% of our net revenue, and our top 10 customers collectively represented approximately 58% of our net revenue. In fiscal 2005, no single customer accounted for more than 10% of our net revenue. Our largest customer has been different in each of the last three fiscal years.

*Proven Acquisition Track Record.* Over the last twelve years we have developed an acquisition program that has resulted in the acquisition of four significant businesses. In October 2007, we acquired R2D Ingenierie, a solar and semiconductor automation company located near Montpellier, France. We believe the acquisition of the technology and business of R2D enhances our growth strategy by allowing us to increase our sales by offering an integrated system under the Tempress brand to the solar industry. In July 2004, we acquired the Bruce Technologies line of semiconductor horizontal furnace operations, product lines and other assets from Kokusai, a wholly owned subsidiary of Hitachi, Japan and its affiliate, Kokusai Electric Europe, GmbH. We continue to market the horizontal furnace product line under the name Bruce Technologies. Bruce Technologies has a large installed base, including several large semiconductor manufacturers. In July 1997, we acquired substantially all of the assets of PR Hoffman. This acquisition enabled us to offer new consumable products, including lapping and polishing carriers, polishing templates, lapping and polishing machines and related consumable and spare parts to our existing customer base as well as to target new customers. In 1994, we acquired certain assets of Tempress and hired Tempress's engineers to develop our first models of the Tempress horizontal diffusion furnaces for production in The Netherlands.

*Technical Expertise.* We have highly trained and experienced mechanical, chemical, environmental, electronic, hardware and software engineers and support personnel. Our engineering group possesses core competencies in product applications and support systems, automation, sophisticated controls, chemical vapor deposition, diffusion and pyrogenic processes, robotics, vacuum systems, ultra clean applications and software driven control packages. We believe this expertise enables us to design, develop and deliver high-quality, technically-advanced integrated product solutions for solar cell and semiconductor manufacturing customers.

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*Leading Technology Solutions and New Product Development.* We pursue a partnering-based approach, in which our engineering and development teams work closely with our customers to ensure our products are tailored to meet our customers' specific requirements. We believe this approach enables us to more closely align ourselves with our customers and provide them with superior systems. We believe our line of horizontal diffusion furnaces, which allow high wafer-per-hour throughput, is more technologically advanced and reliable than most of our competitors' equipment. In addition, the processing and temperature control systems within the furnace provide diverse and proven process capabilities, which enable the application of high-quality films onto silicon wafers. We believe our recently acquired R2D solar automation technology will provide efficiencies in the manufacturing process that will allow our customers to be more competitive in their respective markets. We developed a small batch vertical furnace jointly with a major European customer and are currently developing five different thin film processes for use with this furnace. We retain full ownership of this technology. We shipped two of these systems in fiscal 2005 and one in 2006. In addition, in 2007, we shipped a small batch vertical furnace utilizing DSG's microwave technology to DSG. In 2007, we also began selling precision thickness wafer carriers. This is an internally developed product that we expect will increase our sales to the wafer carrier market.

*Geographically Diverse Customer Base.* We believe that our geographically diverse revenue stream helps to minimize our exposure to fluctuations in any one market, and to maximize our access to potential customers relative to our competitors with geographically concentrated operations. The geographic distribution of our net revenues from fiscal 2005 through 2007 is as follows:

| 2007 | 2006 | 2005 |
|------|------|------|
|------|------|------|

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|               |     |     |     |
|---------------|-----|-----|-----|
| Asia Pacific  | 52% | 41% | 36% |
| North America | 28% | 35% | 40% |
| Europe        | 20% | 24% | 24% |

The figures set forth in the above table represent percentages of the net revenues for each of the last three fiscal years as such net revenues are reported in our financial statements at Item 8.

### GROWTH STRATEGY

We intend to leverage our competitive strengths through a combination of internal and external growth strategies.

**Internal Growth.** Our strategy for internal growth includes: capitalizing on growth opportunities in the solar industry and the Asia-Pacific market; accelerating new product and technology development; enhancing our sales and marketing capabilities; and leveraging our installed base.

*Capitalizing on Growth Opportunities in the Solar Industry.* We have had recent success in increasing our sales to the solar industry. Our fiscal 2007 solar orders, which consist of backlog and shipped orders, totaled \$21.4 million, compared to \$8.0 million and \$3.8 million in fiscal 2006 and 2005, respectively. We believe the increase in orders from solar cell manufacturers is due to our focused product development and marketing efforts, as well as to growing overall demand from the solar industry. We believe that growth in the solar industry will be driven by rising energy demand, the increasing scarcity of traditional energy resources coupled with rising prices, the growing adoption of government incentives for solar energy due to increasing environmental awareness and concern about energy independence, the gradually decreasing cost of solar energy and the changing consumer preferences toward renewable energy sources.

*Capitalizing on Growth Opportunities in the Asia-Pacific Market.* With our extensive global knowledge and experience, particularly in Asia, we intend to further leverage our established sales channels in the Asia-Pacific market for current and future products. The Asia-Pacific region continues to be an important and expanding market for us, particularly because of the continuing migration of solar cell and semiconductor manufacturing to countries in that region. According to *Solar Plaza*, total solar cell production in China is expected to grow from 600 MWp in 2005 to 2,200 MWp in 2010 for a CAGR of 30%. For fiscal 2007, we have increased our sales into the Asia-Pacific market by 44% compared to fiscal 2006. This increase is primarily driven by solar equipment sales.

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*Accelerating New Product and Technology Development.* We are focused on developing new products across our business in response to customer needs in various markets.

*Small Batch Vertical Furnace.* At \$1.5 billion annually, the vertical furnace market is much larger than the horizontal furnace market that we have served historically. Our entry product into the vertical furnace market is a two-tube small batch vertical furnace for wafer sizes of up to 200mm, with each tube having a small flat zone capable of processing 25-50 wafers per run. We are targeting small batch niche applications in the vertical furnace market first, since the competition in the large batch vertical furnace market is intense and our competitors are much larger and have substantially greater financial resources, processing knowledge and advanced technology. We believe our large installed customer base increases the market to which we can sell our small batch vertical furnaces and other new products.

*Precision Thickness Wafer Carrier.* Wafer carriers are work holders into which silicon wafers or other materials are inserted for the purpose of holding them securely in place during the lapping and polishing processes. Many customers thin their wafer carriers to precise tolerances to meet their various applications. We internally developed and began selling precision thickness wafer carriers in 2007.

*Enhancing our Sales and Marketing Capabilities.* In order to increase sales and improve customer service globally, we intend to continue integrating our Bruce Technologies and Tempres sales and marketing teams and transitioning them from being product oriented to being regionally focused. We also intend to hire additional

senior management to expand our existing solar sales and marketing efforts.

**Leveraging our Installed Base.** We intend to continue leveraging our relationships with our customers to maximize parts, system, service and retrofit revenue from the large installed base of Bruce Technologies and Tempress brand horizontal diffusion furnaces. We intend to accomplish this by meeting these customers' needs for replacement systems and additional capacity, including equipment and services in connection with any of our customers' relocation to, or expansion efforts in, Asia.

**External Growth.** We intend to selectively seek strategic growth opportunities through acquisitions, joint ventures, geographic expansion and the development of additional manufacturing capacity.

**Pursuing Strategic Acquisitions that Complement our Strong Platform.** Over the last twelve years, we have developed an acquisition program and have completed the acquisition of three significant businesses. Based on a disciplined acquisition strategy, we continue to evaluate potential technology, product and business acquisitions or joint ventures that are intended to increase our existing market share in the solar industry and expand the number of front-end semiconductor processes addressed by our products. In evaluating these opportunities, our objectives include: enhancing our earnings and cash flows, adding complementary product offerings, expanding our geographic footprint, improving our production efficiency and growing our customer base.

## SOLAR AND SEMICONDUCTOR INDUSTRIES

We provide products and services primarily to two industries: the solar industry and the semiconductor industry.

**Solar Industry.** Solar power has emerged as one of the most rapidly growing renewable energy sources. To date, various technologies have been developed to harness solar energy. The most significant technology is the use of interconnected photovoltaic, or PV, cells to generate electricity directly from sunlight. Most PV cells are constructed using specially processed silicon, which, when exposed to sunlight, generates direct current electricity. Solar energy has many advantages over other existing renewable energy sources and traditional non-renewable energy sources in the areas of environmental impact, delivery risk, distributed nature of generation and matching of peak generation with demand. According to *Photon International* published by Solar Verlag GmbH, an independent solar energy research publication, the global PV market, as measured by total PV cell production, increased from 1.2 gigawatts, or GW, in 2004 to 2.6 GW in 2006, which represents a compound annual growth rate, or CAGR, of approximately 36%. During the same period, PV industry revenues grew from approximately \$8.0 billion to approximately \$20.0 billion.

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*Photon International* projects that total PV cell production, including thin-film and non-conventional production which our products do not address, will increase from 4.0GW in 2007 to 20.5GW in 2011, representing a CAGR of approximately 50%. During the same period, PV industry revenues are projected to grow from approximately \$30 billion to approximately \$121 billion. Despite this rapid growth, solar energy currently accounts for only a small fraction of the world's energy output. We believe that growth in the PV industry will be driven by rising energy demand, the increasing scarcity of traditional energy resources coupled with rising prices, the growing adoption of government incentives in a number of countries for solar energy due to increasing environmental awareness and concern about energy independence, the gradually decreasing cost of solar energy and the changing consumer preferences toward renewable energy sources. We believe the anticipated continued growth of the PV industry will result in increased investment in PV manufacturing equipment. Solar power systems are used for residential, commercial and industrial applications and for customers who either have access to or are remote from the electric utility grid. The market for "on-grid" applications, where solar power is used to supplement a customer's electricity purchased from the utility network, represents the largest and fastest growing segment of the market. "Off-grid" markets, where access to utility networks is not economical or physically feasible, and consumer markets both offer additional opportunities for solar technology. Off-grid industrial applications include road signs, highway call boxes and communications support along remote pipelines, as well as rural residential applications. Consumer applications include outdoor lighting and handheld devices such as calculators.

**Semiconductor Industry.** Semiconductors control and amplify electrical signals and are used in a broad range of electronic products, including: consumer electronic products, computers, wireless telecommunication devices, communications equipment, automotive electronic products, major home appliances, industrial automation and control systems, robotics, aircraft, space vehicles, automatic controls and high-speed switches for broadband

fiber optic telecommunication networks. Semiconductors, or semiconductor "chips," solar cells and optical components are manufactured primarily on a silicon wafer and are part of the circuitry or electronic components of many of the products listed above.

The semiconductor industry has experienced significant growth since the early 1990s. This growth has been primarily attributable to an increase in demand for personal computers, the growth of the internet, the expansion of the telecommunications industry, especially wireless communications, and the emergence of new applications in consumer electronics. Further fueling this growth is the rapidly expanding end-user demand for smaller, less-expensive and better-performing electronic products as well as for traditional products with more "intelligence." This growing demand has led to an increased number of semiconductor devices in electronic and other consumer products, including automobiles.

Although the semiconductor market has experienced significant growth over the past fifteen years, it remains cyclical by nature. The market is characterized by short-term periods of under or over supply for most semiconductors, including microprocessors, memory, power management chips and other logic devices. When demand decreases, semiconductor manufacturers typically slow their purchasing of capital equipment. Conversely, when demand increases, so does capital spending. After the historical peak in 2000, the semiconductor industry experienced one of its most severe downturns in 2001 through the first half of 2003, resulting in a decline in revenue for most manufacturers of semiconductor chips and semiconductor equipment. During the latter part of 2003, the industry began to improve and has continued to improve through 2007.

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## **Industry Manufacturing Processes**

### **Solar Cell Manufacturing Process Flow Chart**

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(\*) Manufacturing process step which involves the use of our products.

A part of our growth strategy involves evaluating opportunities to increase the number of process steps we serve in both the solar cell and semiconductor manufacturing processes by acquiring additional product lines. The solar industry uses many of the same process steps used in semiconductor manufacturing in the high-volume production of solar cells including:

- (1) inspecting for resistivity and mechanical integrity and splitting wafers;
- (2) etching away saw damage with sodium hydroxide and rinsing the wafer with water and concentrated sulphuric acid;
- (3) diffusing oxygen and nitrogen to form a thin-film layer of phosphorous oxychloride on the wafer;
- (4) etching the wafer with fluoric acid to remove the undiffused, phosphorus-silica-glass layer;
- (5) coating an antireflective layer through a chemical vapor deposition (CVD) or plasma enhanced CVD process;
- (6) printing rear side contacts;
- (7) drying to prevent condensation in the wafer area;
- (8) printing aluminum and silver paste on the back surface field to prevent recombination of generated electrons and holes;

- (9) drying;
  - (10) printing front side contacts;
  - (11) drying and then sintering the contact to form electrical conductive contacts; and
  - (12) testing and sorting the solar cells into electrical efficiency categories.
- Most solar cell manufacturers sell their products to manufacturers of solar modules or solar panels. Others are vertically integrated and use their cells in the production of solar modules and panels. Solar cells are the critical component of solar modules and solar panels, which are sold to the end user and used in residential homes, industrial applications, remote pumping, lighting and heating uses and central power stations.

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### **Semiconductor Front End Manufacturing Process Flow Chart**

#### *Creating the Wafer*

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(\*) Manufacturing process steps which involve the use of our products.

Most semiconductor chips are built on a base of silicon, called a wafer, and include multiple layers of circuitry that connect a variety of circuit components, such as transistors, capacitors and other components. To build a chip, the transistors, capacitors and other circuit components are first created on the surface of the wafer by performing a series of processes to deposit and remove selected film layers, including insulators. Similar processes are then used to build the layers of wiring structures on the wafer. These are all referred to as "front-end" processes. A simplified sequence of front-end processes for fabricating typical chips involves:

- (1) forming an ingot by pulling molten silicon;
- (2) slicing the silicon ingot into wafers of uniform thickness with a wire saw;
- (3) lapping and polishing the silicon wafer to a mirror-like finish;
- (4) cleaning the wafer;
- (5) forming a thin film layer of silicon dioxide on the wafer in a diffusion furnace where oxygen, hydrogen or a combination of the two is introduced to cause a chemical reaction (oxidation) with the silicon wafer's surface;
- (6) diffusing impurities (doping) in order to change the wafer's electrical properties;
- (7) depositing insulating or conducting layers on the wafer surface, which sometimes is accomplished in a diffusion furnace via a chemical reaction called chemical vapor deposition;
- (8) coating and baking a photosensitive material, called photoresist, on the wafer;
- (9) creating circuit patterns by exposing the wafer to light directed through a mask with circuit patterns;
- (10)

removing the soluble portion of the photoresist by placing the wafer in a chemical solution, leaving only the desired pattern;

- (11) etching away the exposed areas to create a dimensional pattern on the wafer surface;

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- (12) creating electrically charged conductive regions by driving ions into the exposed areas of the patterned wafer; and

- (13) annealing the wafer through a high temperature process to relieve stress and drive the implanted ions deeper into the wafer.

The silicon wafer may be cycled ten to twenty-five times through these wafer-processing steps, starting each time at step (5) or (7) to form a number of chips on the wafer. The front-end process steps are followed by a number of back-end steps in which the wafers are sliced into individual chips that are then packaged to add connectors that are compatible with the end product in which the chip will be used.

Depending on the device, our polishing supplies segment's products may be used in lapping and polishing (step 3) and our semiconductor and solar equipment segment's products may be used in forming silicon dioxide films (step 5), doping (step 6), depositing insulating and conducting layers (step 7) and the annealing processes (step 13).

## SEMICONDUCTOR AND SOLAR EQUIPMENT SEGMENT PRODUCTS

Our furnace and automation equipment is manufactured in our facilities in Massachusetts and The Netherlands. The following paragraphs describe the products that comprise our semiconductor and solar equipment segment:

**Horizontal Diffusion Furnaces.** Through our subsidiaries, Tempress and Bruce Technologies, we produce and sell horizontal diffusion furnaces. Our horizontal furnaces currently address several steps in the semiconductor manufacturing process, including diffusion (step 5 in the semiconductor manufacturing process previously described), phosphorus tetrachloride doping, or  $\text{POCl}_3$  (step 6), low-pressure chemical vapor deposition, or LPCVD, (step 7), and annealing (step 13). Our horizontal furnaces also currently address diffusion and applying antireflective coating in the solar cell manufacturing process (steps 3 and 5).

Our horizontal furnaces generally consist of three large modules: the load station where the loading of the wafers occurs; the furnace section, which is comprised of one to four reactor chambers; and the gas distribution cabinet where the flow of gases into the reactor chambers is controlled, and often customized to meet the requirements of a customer's particular processes. The horizontal furnaces utilize existing industry technology and are sold primarily to customers who do not require the advanced automation of, or cannot justify the higher expense of, vertical furnaces for some or all of their diffusion processes. Our models are capable of processing all currently existing wafer sizes.

**Small Batch Vertical Furnace.** Our small batch, two-tube vertical furnace was developed internally with the active support from a large semiconductor manufacturer and long-term customer. The specifications for this furnace include a two-tube vertical furnace for wafer sizes of up to 200mm, with each tube having a small flat zone capable of processing 25-50 wafers per run. The market for vertical furnaces is much larger than the total of all the other markets we currently serve. We are initially targeting niche applications, including research and development, while we continue to develop additional processes, since the competition in the large batch vertical furnace market is intense and our competitors are much larger and have substantially greater financial resources, processing knowledge and advanced technology.

**Conveyor Furnace.** We produce conveyor furnaces used to manufacture thick films for the electronics industry. Conveyor furnaces provide for precision thermal processing of electronic parts for thick film applications, including annealing, sealing, soldering, silvering, curling, brazing, alloying, glass-metal sealing and component packaging.

**Etch Systems.** We manufacture and sell two models of etch systems. Our P2000 series is a fully automated single wafer plasma etch and deposition production system for front- and back-end processing of wafers up to 200mm. The system is used for semiconductor production applications. Etching of silicon, nitrides, oxides, polymers and metals is accomplished safely and reliably in this cost efficient, high performance system. Our PM2000 is a manually loaded small laboratory model that provides fast etch rates using solid state 600 watt generators and a unique chamber design. We acquired this product and process technology in 2004 for a nominal amount. We sold our first two etch systems in 2006.

**Automation Products □ Semiconductor.** Use of our automation products reduces human handling and, therefore, reduces exposure of wafers to particle sources during the loading and unloading of the process tubes and protects operators from heat and chemical fumes. Since the top reactor chamber of a horizontal furnace is as much as eight

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feet from the floor on which the operator stands when manually loading wafer boats, and typical boats of 150mm to 300mm wafers weigh three to six pounds, automating the wafer loading and unloading of a diffusion furnace improves employee safety and ergonomics in silicon wafer, solar cell and semiconductor manufacturing facilities.

**E-300.** Our most cost effective automation product is the E-300. This product is most suitable for the lower cost semiconductor devices, such as diodes and power management chips. The E-300 operates like an elevator and generally is used to raise wafer boats loaded with up to 300 wafers to one or both of the upper two reactor chambers of a diffusion furnace.

**S-300.** Our patented S-300 model provides a very efficient method of automatically transporting a full batch of up to 300 wafers to the designated tube level and automatically placing them directly onto the cantilever loader of a diffusion furnace at one time. This product is suitable for the production of nearly all semiconductors manufactured using a horizontal furnace. The S-300 can be used in conjunction with all current wafer sizes and is particularly well suited for manufacturers of 300mm wafers.

**Automation Products □ Solar.** Our automation technology products are used in several of the semiconductor manufacturing steps and the diffusion processing step in solar cell manufacturing. Our automation equipment includes mass wafer transfer systems, sorters, long-boat transfer systems, load station elevators, buffers and conveyers. We use a vacuum technology for our solar wafer transfer systems designed to ensure high throughput.

**Atmoscan and Other Cantilevered Processing Systems.** Our Atmoscan product is a controlled environment wafer processing system that includes a cantilever tube used to load silicon wafers into a horizontal diffusion furnace and through which a purging inert gas flows during the process of loading and unloading the reactor chamber. Among the major advantages afforded by the Atmoscan product is increased control of the environment surrounding the wafers during the gaseous and heating /cooling process, resulting in increased yields, decreased manufacturing costs and other economies in the manufacturing process.

## **POLISHING SUPPLIES SEGMENT PRODUCTS**

The products of our polishing supplies segment are used primarily for lapping and polishing raw silicon wafers to a mirror-like finish. Depending on the cycle of the semiconductor industry, approximately two-thirds of this segment's products are sold to either semiconductor wafer manufacturers or specialty semiconductor fabricators. The products of our polishing supplies segment are also sold to fabricators of optics, quartz, ceramics and metal parts, and to manufacturers of medical equipment components and computer disks. We manufacture the products described below in Pennsylvania and sell them under our PR Hoffman brand name.

**Wafer Carriers.** Carriers are work holders into which silicon wafers or other materials are inserted for the purpose of holding them securely in place during the lapping and polishing processes. We produce carriers for our line of lapping and polishing machines, as well as for those machines sold by our competitors. Substantially all of the carriers we produce are customized for specific applications. Insert carriers, our most significant category of carriers, contain plastic inserts molded onto the inside edge of the work-holes of the carrier, which hold the wafers in place during processing. Although our standard steel carriers are preferred in many applications because of their durability, rigidity and precise dimensions, they are typically not suited for applications involving softer materials or when metal contamination is an issue. Insert carriers, however, are well

suited for processing large semiconductor wafers, up to 300mm in diameter, and other fragile materials or where contamination is an issue, because they provide the advantages of steel carriers while reducing the potential for damage to the edges of such sensitive materials. Our insert carriers are used for double-sided lapping or polishing of semiconductor wafers up to 300mm in diameter. We internally developed and began selling precision thickness wafer carriers in 2007.

**Semiconductor Polishing Templates.** Our polishing templates are used to securely hold silicon wafers in place during single-sided polishing processes. Polishing templates are customized for specific applications and are manufactured to exacting tolerances. We manufacture polishing templates for most brands of tools and various processes. In addition to silicon wafers, these products are used in polishing silicon carbide wafers and sapphire crystals used in LEDs.

**Double-Sided Planetary Lapping and Polishing Machines.** Double-sided lapping and polishing machines are designed to process thin and fragile materials, such as semiconductor silicon wafers, precision optics, computer disk media and ceramic components for wireless communication devices, to exact tolerances of thickness, flatness, parallelism and surface finish. On average, we believe that we offer our surface processing systems at a lower price

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than systems offered by our competitors and target the semiconductor, optics, quartz, ceramics, medical, computer disk and metal working markets. During fiscal 2004, we introduced and delivered our first Model 5400 lapping and polishing machine, capable of processing parts up to 19.5 inches in diameter, including 300mm wafers and higher capacities of smaller parts. This new machine is our largest and is superior to our previous model, because it uses servo motors rather than hydraulics and is equipped with a Windows touch-screen interface, for better control of speeds and pressure, optional thickness control, and crash protection. We believe our 5400 model is especially well suited for thin and fragile materials. We also produce and sell a wide assortment of plates, gears, parts and wear items for our own machines and those sold by many of our competitors.

## MANUFACTURING, RAW MATERIALS AND SUPPLIES

Our semiconductor and solar equipment manufacturing activities consist primarily of engineering design, procurement and assembly of various commercial and proprietary components into finished diffusion furnace systems in Heerde, The Netherlands, and Billerica, Massachusetts. In March 2007, through our subsidiary, Tempres Holding B.V., we purchased a 48,000 square foot manufacturing facility located in Vaassen, The Netherlands near our existing plant, where we currently manufacture the majority of our solar cell and semiconductor equipment. This purchase will replace our existing facility in Heerde and should alleviate our prior capacity constraints in The Netherlands by adding significant manufacturing space for future growth and should facilitate more efficient production of our product lines for both the solar and semiconductor industries. In 2006, we transferred the production of processing and automation systems to Billerica, Massachusetts from our Tempe, Arizona location to improve efficiencies.

Nearly all of our fabricated parts for the semiconductor and solar equipment segment are purchased from local suppliers. Our manufacturing activities in the polishing supplies and equipment segment include laser-cutting and other fabrication steps in producing lapping and polishing consumables, including carriers, templates, gears, wear items and spare parts in Carlisle, Pennsylvania, from raw materials manufactured to our specifications by our suppliers. Many items, such as proprietary components for our semiconductor and solar equipment and lapping plates, are also purchased from suppliers who manufacture these items to our specifications.

All final assembly and tests of our equipment and machines are performed within our manufacturing facilities. Quality control is maintained through inspection of incoming materials and components, in-process inspection during equipment assembly, testing of assemblies and final inspection and, when practical, operation of manufactured equipment prior to shipment.

Since much of our polishing supplies segment's know-how relates to the manufacture of its products, this segment's facility is equipped to perform a significantly higher percentage of the fabrication steps required in the production of its products. However, injection molding for our insert carriers and the manufacture of raw cast iron plates are subcontracted out to various third parties. Our polishing supplies segment relies on key suppliers for certain materials, including two steel mills in Germany and Japan, an injection molder, a single-sourced pad

supplier from Japan and an adhesive manufacturer. Prior to the fourth quarter of fiscal 2004, we subcontracted the lasercutting of carriers to third parties. Since then we have purchased an advanced laser-cutting tool which has increased our ability to compete based upon price, delivery lead-times and quality. To minimize the risk of production and service interruptions and/or shortages of key parts, we maintain appropriate inventories of key raw materials and parts. If for any reason we were unable to obtain a sufficient quantity of parts in a timely and cost-effective manner to meet our production requirements, our results of operations would be materially and adversely affected.

## **BACKLOG**

Our backlog as of September 30, 2007 and 2006 was \$23.2 million and \$13.6 million, respectively, a 71% increase. Our backlog as of September 30, 2007 included approximately \$17.4 million of orders from our solar industry customers compared to \$7.6 million in orders from solar industry customers as of September 30, 2006. The orders included in our backlog are generally credit approved customer purchase orders expected to ship within the next twelve months. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our backlog also includes revenue

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deferred pursuant to our revenue recognition policy, derived from orders that have already been shipped, but which have not met the criteria for revenue recognition. The backlog as of September 30, 2007 and 2006 included \$0.9 million of open orders or deferred revenue on which we anticipate no gross margin.

## **RESEARCH, DEVELOPMENT AND ENGINEERING**

The markets we serve are characterized by evolving industry standards and rapid technological change. To compete effectively in our markets, we must continually keep up with the pace of such change by improving our products and our process technologies and developing new technologies and products that compete effectively on the basis of price and performance and that adequately address current and future customer requirements. We continue to obtain as much customer cooperation and input as possible to increase the efficiency and effectiveness of our research and development efforts. While there can be no assurance that such relationships will continue or that others will be developed, such cooperative efforts are expected to remain a significant element in our future product and technology development projects.

In April 2007, we entered into a licensing and manufacturing agreement to develop and market an antireflective coating system for solar cells with PST Co., LTD., a South Korean producer of vertical thermal processing systems for high-end semiconductor applications. This PECVD system is used in high-volume, solar cell manufacturing and is an important step in the solar cell manufacturing process. The licensing agreement allows us to market PST's existing PECVD system, and for PST to develop and manufacture a new PECVD model for us to market to high-volume solar cell manufacturers.

The royalty free, 10-year licensing agreement will enable us to sell this product to our solar customer base through our extensive global sales and marketing network on an exclusive basis, with the exception of sales in Korea and to one existing customer of PST, for which PST retains exclusive rights. Additionally, we believe this product will enable us develop new customer relationships.

Additionally, in May 2007, we entered into a manufacturing agreement with DSG Technologies, a California based developer of low temperature, microwave heating and curing systems used in the fabricating of integrated circuits. Under this agreement we will manufacture a vertical microwave reactor system that utilizes both our small-batch vertical furnace platform and DSG's heating technology. This new product will be used for the curing processes on advanced sub-50nm semiconductor devices.

We believe that as the industry approaches the sub-50nm technology era, curing applications will require precise low-temperature control. With DSG's heating technology, uniform temperature control can be achieved because, unlike external heating, microwave heating is volumetric throughout the material. Microwave energy can also effectively couple with molecular bonds in the films, which significantly reduces the moisture content, a function not currently possible with conventional heating. The system is also expected to reduce curing temperatures, lower operational costs, improve film quality and significantly improve cycle time.

From time to time we add functionality to our products or develop new products during engineering and manufacturing to fulfill specifications in a customer's order, in which case the cost of development, along with other costs of the order, are charged to cost of sales. We periodically receive small research grants for research and development of products in The Netherlands, which are netted against our research and development costs. Our approach to such expenditures has allowed us to produce a number of new products while spending amounts that we believe are generally modest in relation to most semiconductor equipment manufacturers. Our expenditures that have been accounted for as research and development were \$0.6 (1.2% of net revenue) for fiscal 2007, \$0.4 million (1.1% of net revenue) in fiscal 2006, and \$0.6 million (2.2% of net revenue) in 2005. These amounts exclude those expenses incurred in connection with customer orders or supported by government grants.

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## PATENTS

The following table shows our material patents, the patents licensed by us, and the expiration date of each patent and license:

| Product                                              | Country                                                    | Expiration Date or Pending Approval |
|------------------------------------------------------|------------------------------------------------------------|-------------------------------------|
| IBAL Model S-300                                     | France, Germany, Italy,<br>The Netherlands, United Kingdom | Pending                             |
| Atmospheric Pressure Control<br>for Solar<br>Furnace | Europe                                                     | Pending                             |
| Small Batch Furnace (SBVF)                           | Europe                                                     | Pending                             |
| Dual Cylinder Loadport for<br>SBVF                   | Europe                                                     | Pending                             |
| Heating Element Wire Spacer                          | Europe                                                     | Pending                             |
| Photo CVD                                            | United States                                              | November 15, 2011                   |
| Potential Damage-free Asher                          | United States                                              | September 8, 2018                   |
| IBAL Model S-300                                     | United States                                              | July 7, 2019                        |
| IBAL Model S-300                                     | United States                                              | July 26, 2019                       |
| IBAL Model E-300                                     | United States                                              | July 13, 2021                       |
| Fast, Safe, Pyrogenic External<br>Torch Assembly (*) | United States                                              | December 17, 2011                   |

(\*) Patent is licensed from the patent holder or co-owner on a non-exclusive basis.

To the best of our knowledge, there are no pending lawsuits against us regarding infringement of any existing patents or other intellectual property rights or any unresolved claims made by third parties that we are infringing the intellectual property rights of such third parties.

## SALES AND MARKETING

Because of the highly technical nature of our products, we market our products primarily by direct customer contact through our sales personnel, and through a network of domestic and international independent sales representatives and distributors that specialize in semiconductor equipment and supplies. Our promotional activities include direct sales contacts, participation in trade shows, an internet website, advertising in trade magazines and the distribution of product brochures.

In order to increase sales and improve customer service globally, we intend to integrate our Bruce Technologies and Tempress sales and marketing teams and transition them from being product oriented to regionally focused. Additionally, we intend to hire additional senior management to expand our existing solar sales and marketing efforts.

Sales to distributors of both segments are generally on terms comparable to sales to end user customers, as our distributors generally quote their customers after first obtaining a quote from us and have an order from the end-user before placing an order with us. Our sales to distributors are not contingent on their future sales and do not include a general right of return. Historically, returns have been rare. Distributors of our semiconductor and solar equipment segment products do not stock a significant amount of our products, as the inventory they do hold is primarily limited to parts needed to provide timely repairs to the customer.

Payment terms of our parts, service and retrofit sales, which usually comprise approximately 50-60% of consolidated net revenue, are generally net 30 days, F.O.B. shipping point or equivalent terms. The payment terms of equipment or systems sales vary depending on the size of the order and the size, reputation and creditworthiness of the customer. As a result, the financial terms of equipment sales can range from 80% due 30 days after shipment and 20% due 30 days after acceptance, to requiring a 30% customer deposit 30 days after order placement, 60% due 30 days after shipment and 10% net due 30 days after acceptance. Letters of credit are required of certain customers depending on the size of the order, creditworthiness of the customer and its country of domicile.

During fiscal 2007, 72% of our net revenue came from customers outside of North America. This group represented 65% of revenues in fiscal 2006. In fiscal 2007, net revenue was distributed among customers in different geographic regions as follows: North America 28% (all of which is in the United States), Asia 52% (including 18% to

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China and 18% to Taiwan) and Europe 20%. During fiscal 2007 and 2006, one customer accounted for approximately 13% and 17% of our net revenue, respectively. No customer represented greater than 10% of net revenue during fiscal 2005. Our largest customer has been different in each of the last three fiscal years. Our business is not seasonal in nature, but is cyclical based on the capital equipment investment patterns of solar cell and semiconductor manufacturers. These expenditure patterns are based on many factors, including anticipated demand for integrated circuits, the development of new technologies and global and regional economic conditions.

## COMPETITION

We compete in several distinct markets including semiconductor devices, semiconductor wafer, solar cell, MEMS and the market for general industrial lapping and polishing machines and supplies. Each of these markets is highly competitive. Our ability to compete depends on our ability to continually improve our products, processes and services, as well as our ability to develop new products that meet constantly evolving customer requirements. Significant competitive factors for succeeding in the semiconductor manufacturing equipment market include the equipment's technical capability, productivity and cost-effectiveness, overall reliability, ease of use and maintenance, contamination and defect control and the level of technical service and support provided by the vendor. The importance of each of these factors varies depending on the specific customer's needs and criteria, including considerations such as the customer's process application, product requirements, timing of the purchase and particular circumstances of the purchasing decision.

*The Semiconductor Devices, Semiconductor Wafer, Solar Cell and MEMS Markets.* We believe our large installed base of horizontal diffusion furnaces provides a competitive advantage. We have sold and installed over 900 horizontal furnaces worldwide and, in our experience, our large installed customer base has led to significant replacement and expansion demand. Customers that have purchased our furnaces can leverage their investment in training, spare parts inventory and other costs by acquiring additional equipment from us.

Our diffusion furnaces and automation processing equipment primarily compete with those produced by other domestic and foreign original equipment manufacturers, some of which are well-established firms that are much larger and have substantially greater financial resources than us. Some of our competitors have a diversified product line, making it difficult to quantify their sales of products that compete directly with our products. Competitors of our horizontal diffusion furnaces include Centrotherm GmbH, Koyo Systems Co. Ltd., MRL Industries, Inc., a subsidiary of Sandvik AB, CVD Equipment, Inc., Semco Engineering S.A., Expertech, Inc. and Tystar Corporation. Competitors of our lapping and polishing machines and supplies include Lapmaster International, LLC, Hamai Co., Ltd., Speedfam Co., Ltd., Onse, Inc. and Eminess Technologies, Inc. Such competition could intensify in the future, if the industry trend to produce smaller chips on larger wafers accelerates, or the newer technology represented by vertical furnaces results in a material shift in the purchasing

habits of our targeted customers. Our furnaces and lapping and polishing machines also face, to a limited, but increasing extent, competition from used equipment on the low-end of the price spectrum.

We intend to maintain or improve our competitive position for orders for our diffusion furnaces and automation products by leveraging our established brands. We also intend to expand our sales to the solar industry by focusing our sales and marketing efforts on the very large and stable middle semiconductor market, designing products to meet the customer's specific process requirements and providing competitive prices and product support service levels. With the addition of the Bruce Technologies product line we gained marketing synergies and believe we are more competitive at the upper end of our targeted market. We make purchases of our own brands of used diffusion furnaces at opportunistic prices, refurbish them, and then resell them with the original manufacturer's warranty in an effort to better defend the lower end of our targeted market.

We believe our semiconductor automation products compete favorably with those of our primary competitors, which include Mactronics and Koyo Thermo Systems Co. Ltd. In this market, we believe that our S-300 and E-300 automation products require less of the expensive clean room floor space and are generally less expensive and easier to operate than those of our competitors. We believe that patents on the key features of our semiconductor automation products provide us with a competitive advantage. We expect our semiconductor automation product competitors to seek to continually improve the design and performance of their products, and we can make no assurance that our semiconductor automation competitors will not develop enhancements or acquire new technologies that will offer price or performance features superior to those that we offer. Our semiconductor automation products are designed to

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target customers who want to improve employee safety and reduce scrap. The acquisition of the Bruce Technologies product line has provided increased sales opportunities and new customers for our semiconductor automation products through introductions to the installed base of the users of the Bruce Technologies line of furnaces.

Despite competition from existing manufacturing products, we believe that our Atmoscan products provide better results in terms of more uniform wafer temperature and dispersion of heated gases in the semiconductor manufacturing process, less exposure of semiconductor wafers to contaminants and other technical advantages, all of which afford a higher yield to its users. However, vertical furnaces provide the same benefits as our Atmoscan product to manufacturers that can justify the higher price.

We have provided automation solutions to the semiconductor industry since 1989 and more recently to the solar industry. We use a vacuum technology for our solar wafer transfer systems designed to ensure high throughput, which we believe provides us with a significant point of differentiation from our competitors. We believe our automation solutions enable us to increase our share of the rapidly growing solar market and become a multi-product provider to solar cell manufacturers.

*General Industrial Lapping and Polishing Machines and Supplies Market.* We experience price competition for wafer carriers produced by foreign manufacturers for which there is very little publicly available information. As a result, we are intensifying our efforts to reduce the cost of our carriers and will continue to compete with other manufacturers of carriers by continuing to update our product line to keep pace with the rapid changes in our customers' requirements and by providing a high level of quality and customer service. During September 2004, we completed the installation and began producing steel carriers, including insert carriers, on a newly acquired advanced laser-cutting tool, which has reduced the costs and lead times of these products and increased our control over quality. Competitors of our lapping and polishing machines and carriers, other than insert carriers, include Speedfam-PW, a division of Novellus, among others. We have been able to capture a small share of the semiconductor polishing template market, which we believe to be dominated by Rodel, a division of Rohm and Haas. Our strategy to enhance our sales of wafer carriers includes developing additional niche markets for templates and providing a high level of customer support and products at a lower cost than our competitors.

## **EMPLOYEES**

As of September 30, 2007, we employed approximately 165 people. Of these employees, approximately 15 were based at our corporate offices in Tempe, Arizona, 30 at our manufacturing plant in Carlisle, Pennsylvania, 30 at our manufacturing plant in Billerica, Massachusetts, 60 at our facilities in and near Heerde, The Netherlands, and 30 in our contract semiconductor manufacturing support services business located in Austin, Texas. Of the

approximately 30 people employed at our Carlisle, Pennsylvania facility, about 20 were represented by the United Auto Workers Union - Local 1443. We have never experienced a work stoppage or strike. We consider our employee relations to be good.

## ITEM 1A. RISK FACTORS

*Because of the following factors, as well as other variables affecting our operating results and financial condition, past performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods.*

### **Risks Related to our Business and Industry.**

***If demand declines for horizontal diffusion furnaces and related equipment, or for solar industry products, our financial position and results of operations could be materially and adversely affected.***

The revenue of our semiconductor and solar equipment segment, which accounted for approximately 82% of our consolidated net revenue as of September 30, 2007, is comprised primarily of sales of horizontal diffusion furnaces and our automation products. Our automation products are useable only with horizontal diffusion furnaces. There is a trend in the semiconductor industry, related to the trend to produce smaller chips on larger wafers, towards the use in semiconductor manufacturing facilities of newer technology, such as vertical diffusion furnaces. Vertical diffusion furnaces are more efficient than the horizontal diffusion furnaces in certain manufacturing processes for smaller chips on larger wafers. As early as 1994, we had expected that demand for our horizontal diffusion furnaces would decline as a result of this trend. We believe this trend has not yet adversely affected us to the extent originally expected. However, to

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the extent that the trend to use vertical diffusion furnaces over horizontal diffusion furnaces continues, our revenue may decline and our corresponding ability to generate income may be adversely affected. A significant part of our growth strategy involves expanding our sales to the solar industry. The solar industry is subject to risks relating to industry shortages of polysilicon, (which we discuss further below), the continuation of government incentives, the availability of specialized capital equipment, global energy prices and rapidly changing technologies offering alternative energy sources. If the demand for solar industry products declines, the demand by the solar industry for our products would also decline and our financial position and results of operations would be harmed.

***We may not be able to increase or sustain our recent growth rate, and we may not be able to manage our future growth effectively.***

We may be unable to continue to expand our business or manage future growth. Our recent expansion has placed, and our planned expansion and any other future expansion will continue to place, a significant strain on our management, personnel, systems and resources. We have recently purchased additional equipment and real estate to significantly expand our manufacturing capacity and expect to hire additional employees to support an increase in manufacturing, research and development and sales and marketing efforts. To successfully manage our growth, we believe we must effectively:

- hire, train, integrate and manage additional field service engineers, sales and marketing personnel, and financial and information technology personnel;
- retain key management and augment our management team, particularly if we lose key members;
- continue to enhance our customer resource management and manufacturing management systems;
- implement and improve additional and existing administrative, financial and operations systems, procedures and controls;
- expand and upgrade our technological capabilities; and
- manage multiple relationships with our customers, suppliers and other third parties.

We may encounter difficulties in effectively managing the budgeting, forecasting and other process control issues presented by rapid growth. If we are unable to manage our growth effectively, we may not be able to take advantage of market opportunities, develop new solar cells and other products, satisfy customer requirements, execute our business plan or respond to competitive pressures.

***The ongoing volatility of the semiconductor equipment industry may negatively impact our business and results of operations and our corresponding ability to efficiently budget our expenses.***

The semiconductor equipment industry is highly cyclical. As such, demand for and the profitability of our products can change significantly from period to period as a result of numerous factors, including, but not limited to, changes in:

- global and regional economic conditions;
- changes in capacity utilization and production volume of manufacturers of semiconductors, silicon wafers, solar cells and MEMS;
- the shift of semiconductor production to Asia, where there often is increased price competition; and
- the profitability and capital resources of those manufacturers.

For these and other reasons, our results of operations for past periods may not necessarily be indicative of future operating results.

Since our business has historically been subject to cyclical industry conditions, we have experienced significant fluctuations in our quarterly new orders and net revenue, both within and across years. Demand for semiconductor and silicon wafer manufacturing equipment and related consumable products has also been volatile as a result of sudden changes in semiconductor supply and demand and other factors in both semiconductor devices and wafer fabrication processes. Our orders tend to be more volatile than our revenue, as any change in demand is reflected immediately in orders booked, which are net of cancellations, while revenue tends to be recognized over multiple

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quarters as a result of procurement and production lead times and the deferral of certain revenue under our revenue recognition policies. Customer delivery schedules on large system orders can also add to this volatility since we generally recognize revenue for new product sales on the date of customer acceptance or the date the contractual customer acceptance provisions lapse. As a result, the fiscal period in which we are able to recognize new products revenue is typically subject to the length of time that our customers require to evaluate the performance of our equipment after shipment and installation, which could cause our quarterly operating results to fluctuate.

The purchasing decisions of our customers are highly dependent on the economies of both their domestic markets and the worldwide semiconductor industry. The timing, length and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. The cyclical nature of our marketplace affects our ability to accurately budget our expense levels, which are based in part on our projections of future revenue.

When cyclical fluctuations result in lower than expected revenue levels, operating results may be adversely affected and cost reduction measures may be necessary in order for us to remain competitive and financially sound. During a down cycle, we must be able to make timely adjustments to our cost and expense structure to correspond to the prevailing market conditions. In addition, during periods of rapid growth, we must be able to increase manufacturing capacity and personnel to meet customer demand, which may require additional liquidity. We can provide no assurance that these objectives can be met in a timely manner in response to changes within the industry cycles. If we fail to respond to these cyclical changes, our business could be seriously harmed.

During the most recent down cycle, beginning in the first half of 2001, the semiconductor industry experienced excess production capacity that caused semiconductor manufacturers to decrease capital spending. We do not have long-term volume production contracts with our customers and we do not control the timing or volume of orders placed by our customers. Whether and to what extent our customers place orders for any specific products and the mix and quantities of products included in those orders are factors beyond our control. Insufficient orders would result in under-utilization of our manufacturing facilities and infrastructure and will negatively affect our financial position and results of operations.

***The semiconductor equipment industry is competitive and we are relatively small in size and have fewer resources in comparison with our competitors.***

Our industry includes large manufacturers with substantial resources to support customers worldwide. Our future performance depends, in part, upon our ability to continue to compete successfully worldwide. Some of our

competitors are diversified companies having substantially greater financial resources and more extensive research, engineering, manufacturing, marketing and customer service and support capabilities than we can provide. We face competition from companies whose strategy is to provide a broad array of products, some of which compete with the products and services that we offer. These competitors may bundle their products in a manner that may discourage customers from purchasing our products. In addition, we face competition from smaller emerging semiconductor equipment companies whose strategy is to provide a portion of the products and services that we offer at often a lower price than ours, using innovative technology to sell products into specialized markets. Loss of competitive position could impair our prices, customer orders, revenue, gross margin and market share, any of which would negatively affect our financial position and results of operations. Our failure to compete successfully with these other companies would seriously harm our business. There is a risk that larger, better-financed competitors will develop and market more advanced products than those that we currently offer, or that competitors with greater financial resources may decrease prices thereby putting us under financial pressure. The occurrence of any of these events could have a negative impact on our revenue.

***We are dependent on key personnel for our business and product development and sales, and any loss of our key personnel to competitors or other industries could dramatically impact our ability to continue operations.***

Historically, our product development has been accomplished through cooperative efforts with key customers. Our relationship with some customers is substantially dependent on personal relations established by our President and Chief Executive Officer. Furthermore, our relationship with a major European customer that has been instrumental in the development of our small batch vertical furnace is substantially dependent upon our European General Manager. We are also dependent upon our Technical Director of R2D for the development of our automation

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technology. While there can be no assurance that such relationships will continue, such cooperation is expected to continue to be a significant element in our future development efforts thereby continuing our reliance on certain of our key personnel.

We are the beneficiary of life insurance policies on the life of our President and Chief Executive Officer, Mr. J. S. Whang, in the amount of \$2,000,000, but there is no assurance that such amount will be sufficient to cover the cost of finding and hiring a suitable replacement for Mr. Whang. It may not be feasible for any successor to maintain the same business relationships that Mr. Whang has established. If we were to lose the services of Mr. Whang for any reason, it could have a material adverse affect on our business.

We also depend on the management efforts of our officers and other key personnel and on our ability to attract and retain key personnel. During times of strong economic growth, competition is intense for highly skilled employees. There can be no assurance that we will be successful in attracting and retaining such personnel or that we can avoid increased costs in order to do so. There can be no assurance that employees will not leave Amtech or compete against us. Our failure to attract additional qualified employees, or to retain the services of key personnel, could negatively impact our financial position and results of operations.

***We may not be able to keep pace with the rapid change in the technology we use in our products.***

Success in the semiconductor equipment industry depends, in part, on continual improvement of existing technologies and rapid innovation of new solutions. For example, the semiconductor industry continues to shrink the size of semiconductor devices. These and other evolving customer needs require us to respond with continued development programs.

Technical innovations are inherently complex and require long development cycles and appropriate professional staffing. Our future business success depends on our ability to develop and introduce new products, or new uses for existing products, that successfully address changing customer needs, win market acceptance of these new products or uses and manufacture any new products in a timely and cost-effective manner. If we do not develop and introduce new products, technologies or uses for existing products in a timely manner and continually find ways of reducing the cost to produce them in response to changing market conditions or customer requirements, our business could be seriously harmed.

***Acquisitions can result in an increase in our operating costs, divert management's attention away from other operational matters and expose us to other risks associated with acquisitions.***

We continually evaluate potential acquisitions and consider acquisitions an important part of our future growth strategy. In the past, we have made acquisitions of, or significant investments in, other businesses with synergistic products, services and technologies and plan to continue to do so in the future. Acquisitions, including our recent acquisition of R2D, involve numerous risks, including, but not limited to:

- difficulties and increased costs in connection with integration of geographically diverse personnel, operations, technologies and products of acquired companies;
- diversion of management's attention from other operational matters;
- the potential loss of key employees of acquired companies;
- lack of synergy, or inability to realize expected synergies, resulting from the acquisition;
- the risk that the issuance of our common stock, if any, in an acquisition or merger could be dilutive to our shareholders, if anticipated synergies are not realized; and
- acquired assets becoming impaired as a result of technological advancements or worse-than-expected performance of the acquired company.

***Our financial position and results of operations may be materially harmed if we are unable to recoup our investment in research and development.***

The rapid change in technology in our industry requires that we continue to make investments in research and development in order to enhance the performance and functionality of our products, to keep pace with competitive products and to satisfy customer demands for improved performance, features and functionality. There can be no

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assurance that revenue from future products or enhancements will be sufficient to recover the development costs associated with such products or enhancements, or that we will be able to secure the financial resources necessary to fund future development. Research and development costs are typically incurred before we confirm the technical feasibility and commercial viability of a product, and not all development activities result in commercially viable products. In addition, we cannot ensure that products or enhancements will receive market acceptance, or that we will be able to sell these products at prices that are favorable to us. Our business could be seriously harmed if we are unable to sell our products at favorable prices, or if our products are not accepted by the markets in which we operate.

***If third parties violate our proprietary rights, in which we have made significant investments, such events could result in a loss of value of some of our intellectual property or costly litigation.***

Our success is dependent in part on our technology and other proprietary rights. We own various United States and international patents and have additional pending patent applications relating to some of our products and technologies. The process of seeking patent protection is lengthy and expensive, and we cannot be certain that pending or future applications will actually result in issued patents, or that issued patents will be of sufficient scope or strength to provide meaningful protection or commercial advantage to us. Other companies and individuals, including our larger competitors, may develop technologies that are similar or superior to our technology or design around the patents we own or license. We also maintain trademarks on certain of our products and claim copyright protection for certain proprietary software and documentation. However, we can give no assurance that our trademarks and copyrights will be upheld or successfully deter infringement by third parties. Recently, the patent covering technology that we license and use in our manufacture of insert carriers has expired, which may have the effect of diminishing or eliminating any competitive advantage we may have with respect to this manufacturing process.

While patent, copyright and trademark protection for our intellectual property is important, we believe our future success in highly dynamic markets is most dependent upon the technical competence and creative skills of our personnel. We attempt to protect our trade secrets and other proprietary information through confidentiality agreements with our customers, suppliers, employees and consultants and through other security measures. We also maintain exclusive and non-exclusive licenses with third parties for the technology used in certain products. However, these employees, consultants and third parties may breach these agreements, and we may not have adequate remedies for wrongdoing. In addition, the laws of certain territories in which we develop, manufacture

or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States.

***We may face intellectual property infringement claims that could be time-consuming and costly to defend and could result in our loss of significant rights and the assessment of treble damages.***

From time to time, we have received communications from other parties asserting the existence of patent rights or other intellectual property rights that they believe cover certain of our products, processes, technologies or information. In such cases, we evaluate our position and consider the available alternatives, which may include seeking licenses to use the technology in question on commercially reasonable terms or defending our position. We cannot ensure that licenses can be obtained, or if obtained will be on acceptable terms, or that litigation or other administrative proceedings will not occur.

Some of these claims may lead to litigation. We cannot assure you that we will prevail in these actions, or that other actions alleging misappropriation or misuse by us of third-party trade secrets, infringement by us of third-party patents and trademarks or the validity of our patents, will not be asserted or prosecuted against us. Intellectual property litigation, regardless of outcome, is expensive and time-consuming, could divert management's attention from our business and have a material negative effect on our business, operating results or financial condition. If there is a successful claim of infringement against us, we may be required to pay substantial damages (including treble damages if we were to be found to have willfully infringed a third party's patent) to the party claiming infringement, develop non-infringing technology, stop selling or using technology that contains the allegedly infringing intellectual property or enter into royalty or license agreements that may not be available on acceptable or commercially practical terms, if at all. Our failure to develop non-infringing technologies or license the proprietary rights on a timely basis could harm our business. Parties making infringement claims on future issued patents may be able to obtain an injunction that would prevent us from selling or using our technology that contains the allegedly infringing intellectual property, which could harm our business.

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***Our reliance on sales to a few major customers and granting credit to those customers places us at financial risk.***

We currently sell to a relatively small number of customers, and we expect our operating results will likely continue to depend on sales to a relatively small number of customers for the foreseeable future, as well as the ability of these customers to sell products that require our products in their manufacture. During fiscal 2007 we had one customer that individually represented 13% of revenue. Many of our customer relationships have been developed over a short period of time and certain customers are in their preliminary stages of development. The loss of sales to any of these customers would have a significant negative impact on our business. Our agreements with these customers may be cancelled if we fail to meet certain product specifications, materially breach the agreement or in the event of bankruptcy, and our customers may seek to renegotiate the terms of current agreements or renewals. We cannot be certain that these customers will generate significant revenue for us in the future nor that these customer relationships will continue to develop. If our relationships with our other customers do not continue to develop, we may not be able to expand our customer base or maintain or increase our revenue.

As of September 30, 2007, accounts receivable from three customers each exceeded 10% of accounts receivable; these three customers accounted for 10%, 13% and 22% of total accounts receivable, respectively. A concentration of our receivables from one or a small number of customers places us at risk. If any one or more of our major customers does not pay us it could adversely affect our financial position and results of operations. We attempt to manage this credit risk by performing credit checks, by requiring significant partial payments prior to shipment where appropriate and by actively monitoring collections. We also require letters of credit of certain customers depending on the size of the order, type of customer or its creditworthiness and its country of domicile.

***If any of our customers cancels or fails to accept a large system order, our financial position and results of operations could be materially and adversely affected.***

Our backlog includes orders for large systems, such as our diffusion furnaces, with system prices of up to and in excess of \$1.0 million depending on the system configuration, options included and any special requirements of

the customer. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our financial position and results of operations could be materially and adversely affected should any large systems order be cancelled prior to shipment, or not be accepted by the customer. We have experienced significant cancellations in the past, including \$1.2 million in fiscal 1999, \$3.5 million in 2001, and \$1.2 million in 2002. We have not experienced any significant cancellations since 2002. Likewise, a significant change in the liquidity or financial position of any of our customers that purchase large systems could have a material impact on the collectibility of our accounts receivable and our future operating results. Our backlog does not provide any assurance that we will realize revenue or profit from those orders or indicate in which period net revenue will be recognized, if ever.

***Our business might be adversely affected by a decline in our sales to foreign customers.***

During fiscal 2006, 65% of our net revenue came from customers outside of North America. During fiscal 2007, 72% of our net revenue came from customers outside of North America as follows:

- Asia (including Korea, People's Republic of China, Taiwan, Japan, Singapore, Malaysia, Australia and India) □ 52% (includes 18% to China and 18% to Taiwan); and
- Europe □ 20%.

Because of our significant dependence on revenue from international customers, our operating results could be negatively affected by a decline in the economies of any of the countries or regions in which we do business. Each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Periodic local or international economic downturns, trade balance issues, political instability and fluctuations in interest and currency exchange rates could negatively affect our business and results of operations.

We recorded foreign currency transaction losses of \$0.01 million during fiscal 2007, losses of \$0.1 million in 2006, and gains of \$0.1 million in 2005. While our business has not been materially affected in the past by currency fluctuations, there is a risk that it may be materially adversely affected in the future. Such risk includes possible losses due to currency exchange rate fluctuations, possible future prohibitions against repatriation of earnings, or proceeds

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from disposition of investments, and from possible social and military instability in the case of India, South Korea, Taiwan and possibly elsewhere. Our wholly-owned subsidiary, Tempres Systems, has conducted its operations in The Netherlands since 1995 and during 2005 we established a subsidiary in Germany to conduct the European sales of our Bruce Technologies product line. In October 2007 we completed our acquisition of R2D, a French company. As a result, such operations are subject to the taxation policies, employment and labor laws, transportation regulations, import and export regulations and tariffs, possible foreign exchange restrictions, international monetary fluctuations, and other political, economic and legal policies of that nation, the European Economic Union and the other European nations in which it conducts business. Consequently, we might encounter unforeseen or unfamiliar difficulties in conducting our European operations. Changes in such laws and regulations may have a material adverse effect on our revenue and costs.

***If our critical suppliers fail to deliver sufficient quantities of quality product in a timely and cost-effective manner, it could negatively affect our business.***

We use a wide range of materials and services in the production of our products including custom electronic and mechanical components, and we use numerous suppliers of materials. We generally do not have guaranteed supply arrangements with our suppliers. Because of the variability and uniqueness of customer orders, we try to avoid maintaining an extensive inventory of materials for manufacturing. Key suppliers include two steel mills capable of producing the types of steel to the tolerances needed for our wafer carriers, an injection molder that molds plastic inserts into our steel carriers, an adhesive manufacturer that supplies the critical glue used in the production of the semiconductor polishing templates and a pad supplier that produces a unique material used to attach semiconductor wafers to the polishing template. We also rely on third parties for certain machined parts, steel frames and metal panels and other components used particularly in the assembly of semiconductor production equipment.

Although we make what we believe are reasonable efforts to ensure that parts are available from multiple suppliers, this is not always practical or even possible; accordingly, some key parts are being procured from a single supplier or a limited group of suppliers. During the semiconductor industry peak years, increases in demand for capital equipment resulted in longer lead-times for many important system components. Future increases in demand could cause delays in meeting shipments to our customers. Because the selling price of some of our systems exceeds \$1.0 million, the delay in the shipment of even a single system could cause significant variations in our quarterly revenue. There can be no assurance that our financial position and results of operations will not be materially and adversely affected if, in the future, we do not receive in a timely and cost-effective manner a sufficient quantity and quality of parts to meet our production requirements.

***The solar power industry is currently experiencing an industry-wide shortage of polysilicon. This shortage poses several risks to our business, including possible constraints on revenue growth and possible decreases in our gross margins and profitability.***

Many of our customers are solar cell manufacturers. Polysilicon is an essential raw material in the production of solar cells. There is currently an industry-wide shortage of polysilicon, which has resulted in significant price increases. We expect that the average spot price of polysilicon will continue to increase and we expect that polysilicon demand will continue to outstrip supply throughout 2007 and potentially for a longer period. The inability of our solar industry customers to obtain sufficient polysilicon at commercially reasonable prices, or at all, would adversely affect future customer demand for our products and could cause us to make fewer shipments and generate lower than anticipated revenue, thereby seriously harming our business, financial condition and results of operations.

***We might require additional financing to expand our operations.***

We believe that current cash balances, our existing line of credit, cash flows generated from our operations and additional available financing will provide adequate working capital for at least the next twelve months. However, we may require additional financing for further implementation of our growth plans. There is no assurance that any additional financing will be available if and when required, or, even if available, that it would not materially dilute the ownership percentage of the then existing shareholders, result in increased expenses or result in covenants or special rights that would restrict our operations.

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***We are exposed to risks from legislation requiring companies to evaluate their internal control over financial reporting.***

Section 404 of the Sarbanes-Oxley Act of 2002 will require our management to report on the effectiveness of our internal control over financial reporting beginning in fiscal 2008. Our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting beginning in fiscal 2008. We have an ongoing program to perform the system and process evaluation and testing necessary to comply with these requirements. We expect to incur increased expense and to devote additional management resources to Section 404 compliance. In the event our chief executive officer, chief financial officer or independent registered public accounting firm determine that our internal control over financial reporting is not effective as defined under Section 404, investor perceptions of our company may be adversely affected and could cause a decline in the market price of our stock.

***Terrorist attacks and threats or actual war may negatively impact all aspects of our operations, revenue, costs and stock price.***

The 2001 terrorist attacks in the United States, as well as events occurring in response or connection to them, including future terrorist attacks against United States targets, rumors or threats of war, actual conflicts involving the United States or its allies or military or trade disruptions impacting our domestic or foreign suppliers of parts, components and subassemblies, may impact our operations, including, among other things, by causing delays or losses in the delivery of supplies or finished goods and decreased sales of our products. More generally, any of these events could cause consumer confidence and spending to decrease or result in increased volatility in the United States and worldwide financial markets and economy. They could also result in economic recession in the United States or abroad. Any of these occurrences could have a significant adverse impact on our financial position and results of operations.

***We face the risk of product liability claims or other litigation, which could be expensive and divert management from running our business.***

The manufacture and sale of our products, which in operation involve toxic materials, involve the risk of product liability claims. In addition, a failure of one of our products at a customer site could interrupt the business operations of our customer. Our existing insurance coverage limits may not be adequate to protect us from all liabilities that we might incur in connection with the manufacture and sale of our products if a successful product liability claim or series of product liability claims were brought against us. We may also be involved in other legal proceedings or claims and experience threats of legal action from time to time in the ordinary course of our business.

Where appropriate, we intend to vigorously defend all claims. However, any actual or threatened claims, even if not meritorious or material, could result in the expenditure of significant financial and managerial resources. The continued defense of these claims and other types of lawsuits could divert management's attention away from running our business. In addition, required amounts to be paid in settlement of any claims, and the legal fees and other costs associated with such settlement, cannot be estimated and could, individually or in the aggregate, materially harm our financial condition.

***We are subject to environmental regulations, and our inability or failure to comply with these regulations could result in significant costs or the suspension of our ability to operate segments of our business.***

We are subject to environmental regulations in connection with our business operations, including regulations related to manufacturing and our customers' use of our products. From time to time, we receive notices regarding these regulations. It is our policy to respond promptly to these notices and to take any necessary corrective action. Our failure or inability to comply with existing or future environmental regulations could result in significant remediation liabilities, the imposition of fines and/or the suspension or termination of development, manufacturing or use of certain of our products, each of which could damage our financial position and results of operations.

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**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

**ITEM 2. PROPERTIES**

We believe that our properties are adequate for our current needs. In addition, we believe that adequate space can be obtained to meet our foreseeable business needs. The following chart identifies the principal properties which we own or lease.

| Location                                      | Use                      | Size      | Monthly Rent | Lease Expiration |
|-----------------------------------------------|--------------------------|-----------|--------------|------------------|
| <b><i>Semiconductor Equipment Segment</i></b> |                          |           |              |                  |
| Tempe, AZ                                     | Corporate                | 15,000 sf | \$ 9,000     | 11/30/2007(3)    |
| Austin, TX                                    | Mfg Support              |           | (1)          | (1)              |
| Billerica, MA                                 | Office, Warehouse & Mfg. | 30,000 sf | \$ 18,000    | 8/31/2011        |
| Heerde, The Netherlands                       | Office & Mfg.            | 10,000 sf | Owned        | N/A              |
| Heerde, The Netherlands                       | Warehouse & Mfg.         | 10,000 sf | \$ 9,000     | 7/31/2008        |
| Vaassen, The Netherlands                      | Warehouse & Mfg.         | 48,000 sf | Owned        | N/A              |
| Clapiers, France                              | Office, Warehouse & Mfg. | 12,000 sf | \$ 7,000     | 9/30/2016(4)     |
| Clapiers, France                              | Manufacturing            | 3,000 sf  | \$ 3,000     | (3)              |
| Le Crès, France                               | Manufacturing            | 3,000 sf  | \$ 2,000     | (3)              |
| <b><i>Polishing Supplies Segment</i></b>      |                          |           |              |                  |
| Carlisle, PA                                  | Office & Mfg.            | 22,000 sf | \$ 12,000    | 6/30/2008(2)     |

- (1) Services are performed in customer's facilities.
- (2) We have an option to renew for three additional terms of one year each. We intend to exercise our renewal options.
- (3) We are currently leasing this property on a month to month basis.
- (4) This lease can be cancelled by the Company with six months notice beginning October 1, 2010.

### ITEM 3. LEGAL PROCEEDINGS

None.

### 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

#### MARKET INFORMATION

Our common stock, par value \$0.01 per share ("Common Stock"), began trading on the NASDAQ Global Market (formerly the NASDAQ National Market), under the symbol "ASYS," on April 18, 2001. From 1983 to 2001, our Common Stock was traded on the NASDAQ SmallCap Market. On December 7, 2007, the closing price of our Common Stock as reported on the NASDAQ Global Market was \$15.07 per share. The following table sets forth the high and low bid price at which the shares of our Common Stock traded for each quarter of fiscal 2007 and 2006, as reported by the NASDAQ Global Market.

|                | Fiscal 2007 |         | Fiscal 2006 |         |
|----------------|-------------|---------|-------------|---------|
|                | High        | Low     | High        | Low     |
| First quarter  | \$ 8.00     | \$ 5.95 | \$ 9.05     | \$ 5.22 |
| Second quarter | 8.10        | 6.65    | 10.31       | 6.26    |
| Third quarter  | 9.21        | 7.25    | 10.02       | 6.05    |
| Fourth quarter | 14.26       | 8.48    | 7.44        | 6.25    |

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#### COMPARISON OF STOCK PERFORMANCE

The following line graph compares cumulative total shareholder return, assuming reinvestment of dividends, for: the Company's Common Stock, the NASDAQ Composite Index and the NASDAQ Industrial Index. Because the Company did not pay dividends on its Common Stock during the measurement period, the calculation of the cumulative total shareholder return on the Company's Common Stock did not include dividends. The following graph assumes that \$100 was invested on October 1, 2002.

#### HOLDERS

As of December 6, 2007, there were 909 shareholders of record of our Common Stock. Based upon a recent survey of brokers, we estimate there were approximately an additional 2,742 beneficial shareholders who held shares in brokerage or other investment accounts as of that date.

#### DIVIDENDS

We have never paid dividends on our Common Stock. Our present policy is to apply cash to investment in product development, acquisition or expansion; consequently, we do not expect to pay dividends on Common Stock in the foreseeable future.

**SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS**

The following table sets forth certain information, as of September 30, 2007, concerning outstanding options and rights to purchase Common Stock granted to participants in all of the Company's equity compensation plans and the number of shares of Common Stock remaining available for issuance under such equity compensation plans.

|                                                            | Number of securities to be issued upon exercise of outstanding options, warrants and rights | Weighted-average exercise price of outstanding options, warrants and rights | Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Plan Category                                              | (a)                                                                                         | (b)                                                                         | (c)                                                                                                                                         |
| Equity compensation plans approved by security holders (1) | 450,303                                                                                     | 6.44                                                                        | 590,787                                                                                                                                     |
| Equity compensation plans not approved by security holders |                                                                                             |                                                                             |                                                                                                                                             |
| Total                                                      | 450,303                                                                                     |                                                                             | 590,787                                                                                                                                     |

(1) Represents the 1998 Employee Stock Option Plan, the 2007 Employee Stock Incentive Plan and the Non-Employee Director Stock Option Plan and any respective amendments thereto.

**ITEM 6. SELECTED FINANCIAL DATA**

This selected financial data should be read in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our consolidated financial statements (including the related notes thereto) contained elsewhere in this report.

|                                          | Years Ended September 30,                                                     |           |           |            |           |
|------------------------------------------|-------------------------------------------------------------------------------|-----------|-----------|------------|-----------|
|                                          | 2007                                                                          | 2006      | 2005      | 2004(1)    | 2003      |
|                                          | (In thousands, except percentages, per share amounts and number of employees) |           |           |            |           |
| <b>Operating Data:</b>                   |                                                                               |           |           |            |           |
| Net revenue                              | \$ 45,984                                                                     | \$ 40,445 | \$ 27,899 | \$ 19,299  | \$ 19,434 |
| Gross profit                             | \$ 12,810                                                                     | \$ 10,575 | \$ 7,668  | \$ 3,949   | \$ 4,835  |
| Gross profit %                           | 27.9%                                                                         | 26.1%     | 27.5%     | 20.5%      | 24.9%     |
| Operating income (loss)                  | \$ 1,741                                                                      | \$ 1,635  | \$ (244)  | \$ (2,035) | \$ (245)  |
| Net income (loss)                        | \$ 2,417                                                                      | \$ 1,318  | \$ (259)  | \$ (3,165) | \$ (100)  |
| Dividends on convertible preferred stock | \$                                                                            | \$ (81)   | \$ (76)   | \$         | \$        |
| Net income (loss) attributable to common | \$ 2,417                                                                      | \$ 1,237  | \$ (335)  | \$ (3,165) | \$ (100)  |
| <b>Earnings (loss) per share:</b>        |                                                                               |           |           |            |           |
| Basic earnings (loss) per share          | \$ 0.45                                                                       | \$ 0.40   | \$ (0.12) | \$ (1.17)  | \$ (0.04) |
| Diluted earnings (loss) per share        | \$ 0.44                                                                       | \$ 0.38   | \$ (0.12) | \$ (1.17)  | \$ (0.04) |
| <b>Order backlog(2)</b>                  | \$ 23,156                                                                     | \$ 13,600 | \$ 14,388 | \$ 7,300   | \$ 7,645  |
| <b>Balance Sheet Data:</b>               |                                                                               |           |           |            |           |

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|                             |           |           |           |           |           |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|
| Cash and cash equivalents   | \$ 18,370 | \$ 6,433  | \$ 3,309  | \$ 1,674  | \$ 7,453  |
| Working capital             | \$ 30,492 | \$ 11,883 | \$ 9,968  | \$ 7,735  | \$ 12,727 |
| Current ratio               | 3.6:1     | 2.6:1     | 3.7:1     | 2.7:1     | 4.9:1     |
| Total assets                | \$ 50,666 | \$ 23,563 | \$ 17,701 | \$ 16,660 | \$ 18,399 |
| Total current liabilities   | \$ 11,718 | \$ 7,337  | \$ 3,752  | \$ 4,531  | \$ 3,259  |
| Long-term obligations       | \$ 744    | \$ 617    | \$ 741    | \$ 474    | \$ 641    |
| Convertible preferred stock | \$ □      | \$ □      | \$ 1,935  | \$ □      | \$ □      |
| Total stockholders' equity  | \$ 38,204 | \$ 15,609 | \$ 13,208 | \$ 11,655 | \$ 14,499 |

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- (1) On July 1, 2004, the Company acquired the Bruce Technologies horizontal furnace product line from Kokusai.
- (2) The backlog as of September 30, 2007, 2006, 2005, 2004 and 2003 includes \$0.9 million, \$0.9 million, \$1.0 million, \$0.7 million and \$0.7 million, respectively, of open orders or deferred revenue on which we anticipate no gross margin.

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

*The following discussion of our financial condition and results of operations should be read in conjunction with our Consolidated Financial Statements and the related notes included in Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K. This discussion contains forward-looking statements, which involve risk and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of certain factors including, but not limited to, those discussed in "Risk Factors" and elsewhere in this Annual Report on Form 10-K.*

#### Introduction

Management's Discussion and Analysis ("MD&A") is intended to facilitate an understanding of our business and results of operations. MD&A consists of the following sections:

- Overview: a summary of our business.
- Results of Operations: a discussion of operating results.
- Liquidity and Capital Resources: an analysis of cash flows, sources and uses of cash and financial position.
- Contractual Obligations and Commercial Commitments
- Critical Accounting Policies: a discussion of critical accounting policies that require the exercise of judgments and estimates.
- Impact of Recently Issued Accounting Pronouncements: a discussion of how we are affected by recent pronouncements.

#### Overview

We operate in two segments: semiconductor and solar equipment and polishing supplies. Our semiconductor and solar equipment segment is a leading supplier of thermal processing systems, including related automation, parts and services, to the semiconductor, solar/photovoltaic, silicon wafer and MEMS industries.

Our polishing supplies and equipment segment is a leading supplier of wafer carriers to manufacturers of silicon wafers. The polishing segment also manufactures polishing templates, steel carriers and double-sided polishing and lapping machines to fabricators of optics, quartz, ceramics and metal parts, and to manufacturers of medical equipment components.

Our customers are primarily manufacturers of integrated circuits and solar cells. The semiconductor and solar cell industries are cyclical and historically have experienced significant fluctuations. Our revenue is impacted by these broad industry trends.

In June 2006, we adopted a plan to consolidate the manufacturing of our automation product line into facilities already used to manufacture diffusion furnaces. Our automation products are often sold in conjunction with new diffusion furnaces. As a result of this decision, we recorded approximately \$0.2 million of restructuring charges in fiscal 2006.

In July 2004, we completed the acquisition of the Bruce Technologies horizontal diffusion furnace product line from Kokusai Semiconductor Equipment Corporation, which we believe makes us a leading manufacturer of horizontal diffusion furnaces.

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## Results of Operations

The following table sets forth certain operational data as a percentage of net revenue for the periods indicated:

|                                          | Years Ended September 30, |        |        |
|------------------------------------------|---------------------------|--------|--------|
|                                          | 2007                      | 2006   | 2005   |
| Net revenue                              | 100.0%                    | 100.0% | 100.0% |
| Cost of sales                            | 72.1%                     | 73.9%  | 72.5%  |
| Gross margin                             | 27.9%                     | 26.1%  | 27.5%  |
| Selling, general and administrative      | 22.9%                     | 20.5%  | 26.2%  |
| Restructuring charge                     | □                         | 0.5%   | □      |
| Research and development                 | 1.2%                      | 1.1%   | 2.2%   |
| Operating income (loss)                  | 3.8%                      | 4.0%   | (0.9)% |
| Interest and other income (expense), net | 0.7%                      | □      | 0.3%   |
| Income (loss) before income taxes        | 4.5%                      | 4.0%   | (0.6)% |
| Income tax provision (benefit)           | (0.8)%                    | 0.7%   | 0.3%   |
| Net income (loss)                        | 5.3%                      | 3.3%   | (0.9)% |

## Fiscal 2007 compared to Fiscal 2006

### Net Revenue

Net revenue consists of revenue recognized upon shipment or installation of products using proven technology and upon acceptance of products using new technology. In addition, spare parts sales are recognized upon shipment. Service revenue is recognized upon completion of the service activity or ratably over the term of the service contract. The majority of our revenue is generated from large furnace systems sales which, depending on the timing of shipment and installation, can have a significant impact on our revenue and earnings in any given period. See Critical Accounting Policies □ Revenue Recognition.

| Net Revenue                               | Years Ended<br>September 30, |           | Increase<br>(Decrease) | %   |
|-------------------------------------------|------------------------------|-----------|------------------------|-----|
|                                           | 2007                         | 2006      |                        |     |
|                                           | (dollars in thousands)       |           |                        |     |
| Semiconductor and Solar Equipment Segment | \$ 37,657                    | \$ 33,363 | \$ 4,294               | 13% |
| Polishing Supplies Segment                | 8,327                        | 7,082     | 1,245                  | 18% |
| Total                                     | \$ 45,984                    | \$ 40,445 | \$ 5,539               | 14% |

Overall growth in net revenue in fiscal 2007 was driven primarily by our increased penetration into the solar market where revenue increased \$9.7 million or more than 300% compared to fiscal 2006. Within the semiconductor and solar equipment segment, net revenue from the solar market was \$12.5 million and \$2.8 million in fiscal 2007 and 2006, respectively, while net revenue from the semiconductor market was \$25.2 million in fiscal 2007 compared to \$30.6 million in fiscal 2006. Net revenue within the semiconductor market in fiscal 2006 was positively impacted by the shipment of a \$5.2 million multi-furnace order for which there was no corresponding order of similar magnitude in fiscal 2007. Revenue in the polishing supplies segment increased \$1.2 million or 18% due to increased demand for our polishing machines and polishing templates

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The following table reflects new orders, shipments and net revenue for each quarter for fiscal 2007 and 2006, on a consolidated basis, as well as for each of our two business segments.

|                       | Fiscal Quarter         |          |           |           |           | Fiscal<br>Year(1) | Semi-<br>conductor<br>and Solar<br>Equipment<br>Segment<br>(1) | Polishing<br>Supplies<br>Segment |
|-----------------------|------------------------|----------|-----------|-----------|-----------|-------------------|----------------------------------------------------------------|----------------------------------|
|                       | First                  | Second   | Third     | Fourth(1) |           |                   |                                                                |                                  |
|                       | (dollars in thousands) |          |           |           |           |                   |                                                                |                                  |
| 2007:                 |                        |          |           |           |           |                   |                                                                |                                  |
| New orders (2)        | \$ 14,056              | \$ 8,527 | \$ 17,334 | \$ 15,623 | \$ 55,540 | \$ 47,026         | \$ 8,514                                                       |                                  |
| Shipments             | 9,967                  | 10,140   | 13,626    | 13,472    | 47,205    | 38,878            | 8,327                                                          |                                  |
| Net revenues          | 9,451                  | 10,539   | 12,874    | 13,120    | 45,984    | 37,657            | 8,327                                                          |                                  |
| Ending backlog        | 18,205                 | 16,193   | 20,653    | 23,156    | 23,156    | 21,983            | 1,173                                                          |                                  |
| Book-to-bill<br>ratio | 1.4:1                  | 0.8:1    | 1.3:1     | 1.2:1     | 1.2:1     | 1.2:1             | 1.0:1                                                          |                                  |
| 2006:                 |                        |          |           |           |           |                   |                                                                |                                  |
| New orders (2)        | \$ 11,236              | \$ 6,505 | \$ 10,506 | \$ 11,410 | \$ 39,657 | \$ 32,577         | \$ 7,080                                                       |                                  |
| Shipments             | 8,420                  | 11,378   | 10,899    | 10,636    | 41,333    | 34,251            | 7,082                                                          |                                  |
| Net revenues          | 7,915                  | 10,892   | 10,351    | 11,287    | 40,445    | 33,363            | 7,082                                                          |                                  |
| Ending backlog        | 17,709                 | 13,322   | 13,477    | 13,600    | 13,600    | 12,614            | 986                                                            |                                  |
| Book-to-bill<br>ratio | 1.3:1                  | 0.6:1    | 1.0:1     | 1.1:1     | 1.0:1     | 1.0:1             | 1.0:1                                                          |                                  |

- (1) The backlog as of September 30, 2007 and 2006 includes \$0.9 million of open orders or deferred revenue on which we anticipate no gross margin.
- (2) Orders are net of cancellations and include the change in the U. S. dollar value of orders recorded in Euros by our semiconductor and solar equipment segment.

## Backlog

Our backlog as of September 30, 2007 and 2006 was \$23.2 million and \$13.6 million, respectively, a 71% increase. Our backlog as of September 30, 2007 included approximately \$17.4 million of orders from our solar industry customers compared to \$7.6 million of orders from solar industry customers as of September 30, 2006. The orders included in our backlog are generally credit approved customer purchase orders expected to ship within the next twelve months. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our backlog also includes revenue deferred pursuant to our revenue recognition policy, derived from orders that have already been shipped, but which have not met the criteria for revenue recognition.

## Gross Profit

Gross profit is the difference between net revenue and cost of goods sold. Cost of goods sold consists of purchased material, labor and overhead to manufacture equipment or spare parts and the cost of service and support to customers for warranty, installation and paid service calls. Gross margin is gross profit as a percentage of net revenue.

| Gross Profit                              | Years Ended<br>September 30, |           | Increase<br>(Decrease) | %   |
|-------------------------------------------|------------------------------|-----------|------------------------|-----|
|                                           | 2007                         | 2006      |                        |     |
|                                           | (dollars in thousands)       |           |                        |     |
| Semiconductor and Solar Equipment Segment | \$ 9,995                     | \$ 8,461  | \$ 1,534               | 18% |
| Polishing Supplies Segment                | 2,815                        | 2,114     | 701                    | 33% |
| Total                                     | \$ 12,810                    | \$ 10,575 | \$ 2,235               | 21% |
| Gross Margin                              | 28%                          | 26%       |                        |     |

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Gross profit increased in fiscal 2007 by \$2.2 million, or 21%, over fiscal 2006. The increase was driven by higher shipments during the year as well as improved margin percentage. Gross margin was 28% in fiscal 2007 compared to 26% in fiscal 2006. A major factor that contributed to the increase in margin percentage was improved

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capacity utilization in both segments. Additionally, in the semiconductor and solar equipment segment, margins were negatively impacted in fiscal 2006 by approximately \$0.7 million of revenue and an equal amount of costs related to customer acceptance of one of our first small batch vertical furnace systems and lower margins on the multi-furnace order shipped during fiscal 2006.

The timing of revenue recognition can have a particularly significant effect on gross margin when the equipment revenue of an order is recognized in one period and the remainder of the revenue attributed to holdbacks is recognized in a later period. The portion of revenue attributed to the holdbacks generally comprises 10-20% of an order and has a significantly higher gross margin percentage.

### ***Selling, General and Administrative Expenses***

Selling, general and administrative expenses consist of the cost of employees, consultants and contractors, as well as facility costs, sales commissions, legal and accounting fees and promotional marketing expenses.

| Selling, General and Administrative       | Years Ended<br>September 30, |          | Increase<br>(Decrease) | %   |
|-------------------------------------------|------------------------------|----------|------------------------|-----|
|                                           | 2007                         | 2006     |                        |     |
|                                           | (dollars in thousands)       |          |                        |     |
| Semiconductor and Solar Equipment Segment | \$ 9,091                     | \$ 7,111 | \$ 1,980               | 28% |
| Polishing Supplies Segment                | 1,414                        | 1,202    | 212                    | 18% |
| Total                                     | \$ 10,505                    | \$ 8,313 | \$ 2,192               | 26% |
| Percent of net revenue                    | 23%                          | 21%      |                        |     |

Total selling, general and administrative expenses increased \$2.2 million or 26% in fiscal 2007 from fiscal 2006. Commissions on sales increased approximately \$0.9 million due to increased revenue generated in geographic regions, primarily Asia, where third-party sales representatives are utilized. Other selling costs increased \$0.2 million in fiscal 2007 due to increased marketing activities. General and administrative personnel and consulting costs increased in fiscal 2007 as a result of the need to (i) improve internal financial and operational reporting, (ii) identify potential improvements in operational efficiencies, (iii) assist in developing and executing our growth strategies and (iv) manage the increasing compliance obligations of a growing multi-national public company. Stock option expense increased \$0.2 million in fiscal 2007.

### ***Restructuring Charges***

In June 2006, we adopted a plan to consolidate the manufacturing of our automation product line into facilities already used to manufacture diffusion furnaces. Our automation products are often sold in conjunction with the sale of new diffusion furnaces. As a result of this decision, we recorded \$0.2 million of restructuring charges in fiscal 2006. We incurred no comparable costs in fiscal 2007.

### ***Research and Development***

Research and development expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes; materials used in those processes and producing prototypes.

| Research and Development                  | Years Ended<br>September 30, |        | Increase<br>(Decrease) | %   |
|-------------------------------------------|------------------------------|--------|------------------------|-----|
|                                           | 2007                         | 2006   |                        |     |
|                                           | (dollars in thousands)       |        |                        |     |
| Semiconductor and Solar Equipment Segment | \$ 564                       | \$ 437 | \$ 127                 | 29% |
| Polishing Supplies Segment                | □                            | □      | □                      | 0%  |
| Total                                     | \$ 564                       | \$ 437 | \$ 127                 | 29% |

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Percent of net revenue 1% 1%

Increased investment in research and development resulted mainly from activity in the development of products and processes to meet the needs of the solar market. Reimbursements of research and development costs in the form of governmental research and development grants amounted to \$0.1 million in fiscal 2007 and 2006, respectively, and are netted against these expenses.

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## Income Tax Provision

In fiscal 2004 we recorded a valuation allowance for the total of our deferred tax assets. The company, at that time, had incurred substantial book and tax losses and was in a cumulative loss position as defined under SFAS No. 109. During fiscal years 2004 through 2006, we recorded additional tax provisions or benefits as deferred tax assets increased or decreased so that the valuation allowance remained equal to total deferred tax assets. During fiscal 2006, our deferred tax assets declined by \$0.2 million, resulting in a decline in our valuation allowance and an equal amount of tax benefit. This resulted in an effective tax rate for fiscal 2006 of 17.5%.

Based upon profitability in fiscal years 2006 and 2007, as well as our strong cash position and strong order backlog, we believe it is more likely than not that we will realize the future tax benefit of a significant portion of our deferred tax assets. Therefore, during fiscal 2007 we recorded reductions in the valuation allowance on deferred tax assets of \$1.2 million. Our future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of our pre-tax income, the level of expenses that are not deductible for tax purposes, changes in our deferred tax assets and the effectiveness of our tax planning strategies.

## Fiscal 2006 compared to Fiscal 2005

### Net Revenue

|                                 | Years Ended September 30, |           |           |     |
|---------------------------------|---------------------------|-----------|-----------|-----|
|                                 | 2006                      | 2005      | Inc (Dec) | %   |
|                                 | (dollars in thousands)    |           |           |     |
| Semiconductor Equipment Segment | \$ 33,363                 | \$ 20,668 | \$ 12,695 | 61% |
| Polishing Supplies Segment      | 7,082                     | 7,231     | (149)     | -2% |
| Net revenues                    | \$ 40,445                 | \$ 27,899 | \$ 12,546 | 45% |

Overall growth in net revenue in fiscal 2006 was fueled by a beginning backlog of \$14.4 million, a robust semiconductor equipment market, and increasing penetration into the solar market. Net revenue in fiscal 2006 was positively impacted by the shipment of a \$5.2 million multi-furnace order in the quarter ended March 31, 2006, for which there was no corresponding order of similar magnitude in fiscal 2005. In addition, net revenue in fiscal 2006 was positively impacted by revenue related to the solar industry of approximately \$2.8 million versus \$1.4 million in fiscal 2005.

The decrease in net revenue of the polishing supplies segment was due primarily to a decrease in sales of insert carriers.

The following table reflects new orders(1), shipments and net revenue for each quarter for fiscal 2006 and 2005, on a consolidated basis, as well as for each of our two business segments.

|                | Fiscal Quarter         |          |           |           | Fiscal Year(2) | Semi-conductor Equipment Segment (2) | Polishing Supplies Segment |
|----------------|------------------------|----------|-----------|-----------|----------------|--------------------------------------|----------------------------|
|                | First                  | Second   | Third     | Fourth(2) |                |                                      |                            |
|                | (dollars in thousands) |          |           |           |                |                                      |                            |
| <b>2006:</b>   |                        |          |           |           |                |                                      |                            |
| New orders (2) | \$ 11,236              | \$ 6,505 | \$ 10,506 | \$ 11,410 | \$ 39,657      | \$ 32,577                            | \$ 7,080                   |
| Shipments      | 8,420                  | 11,378   | 10,899    | 10,636    | 41,333         | 34,251                               | 7,082                      |
| Net revenues   | 7,915                  | 10,892   | 10,351    | 11,287    | 40,445         | 33,363                               | 7,082                      |
| Ending backlog | 17,709                 | 13,322   | 13,477    | 13,600    | 13,600         | 12,614                               | 986                        |

| <b>Book-to-bill ratio</b> | <b>1.3:1</b> | <b>0.6:1</b> | <b>1.0:1</b> | <b>1.1:1</b> | <b>1.0:1</b> | <b>1.0:1</b> | <b>1.0:1</b> |
|---------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>2005:</b>              |              |              |              |              |              |              |              |
| New orders (2)            | \$ 8,323     | \$ 5,079     | \$ 7,152     | \$ 14,433    | \$ 34,987    | \$ 27,884    | \$ 7,104     |
| Shipments                 | 6,952        | 8,928        | 5,706        | 6,888        | 28,474       | 21,235       | 7,239        |
| Net revenues              | 7,172        | 8,915        | 5,507        | 6,305        | 27,899       | 20,669       | 7,231        |
| Ending backlog            | 8,451        | 4,615        | 6,260        | 14,388       | 14,388       | 13,400       | 988          |
| <b>Book-to-bill ratio</b> | <b>1.2:1</b> | <b>0.6:1</b> | <b>1.3:1</b> | <b>2.1:1</b> | <b>1.2:1</b> | <b>1.3:1</b> | <b>1.0:1</b> |

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- (1) Orders are net of cancellations and include the change in the U. S. dollar value of orders recorded in Euros by our semiconductor and solar equipment segment.
- (2) The backlog as of September 30, 2006 and 2005 includes \$0.9 million and \$1.0 million, respectively, of open orders or deferred revenue on which we anticipate no gross margin.

### **Gross Profit**

|                                 | <b>Years Ended<br/>September 30,</b> |                 | <b>Increase</b>   |            |
|---------------------------------|--------------------------------------|-----------------|-------------------|------------|
| <b>Gross Profit</b>             | <b>2006</b>                          | <b>2005</b>     | <b>(Decrease)</b> | <b>%</b>   |
|                                 | <b>(dollars in thousands)</b>        |                 |                   |            |
| Semiconductor Equipment Segment | \$ 8,461                             | \$ 5,509        | \$ 2,952          | 54%        |
| Polishing Supplies Segment      | 2,114                                | 2,159           | (45)              | (2)%       |
| <b>Total</b>                    | <b>\$ 10,575</b>                     | <b>\$ 7,668</b> | <b>\$ 2,907</b>   | <b>38%</b> |
| Gross Margin                    | 26%                                  | 27%             |                   |            |

Gross profit increased in fiscal 2006 by \$2.9 million, or 38%, over fiscal 2005. The increase was driven by higher shipments during the year. Gross margin was 26% in fiscal 2006 compared to 27% in fiscal 2005. Major factors that contributed to the decrease in margin percentage were (i) increase in profit deferred in fiscal 2006 compared to 2005, (ii) recognition of approximately \$0.7 million of revenue and an equal amount of costs related to customer acceptance of our small batch vertical furnace and (iii) lower margins on the multi-furnace order shipped during fiscal 2006. The decrease in gross margin was also impacted by a change in product mix, as the polishing supplies segment (which has higher gross margins) declined as a percentage of consolidated revenue.

The timing of revenue recognition can have a particularly significant effect on gross margin when the equipment revenue of an order is recognized in one period and the remainder of the revenue attributed to holdbacks is recognized in a later period. The portion of revenue attributed to the holdbacks generally comprises 10-20% of an order and has a significantly higher gross margin percentage.

### **Selling, General and Administrative Expenses**

|                                            | <b>Years Ended<br/>September 30,</b> |                 | <b>Increase</b>   |            |
|--------------------------------------------|--------------------------------------|-----------------|-------------------|------------|
| <b>Selling, General and Administrative</b> | <b>2006</b>                          | <b>2005</b>     | <b>(Decrease)</b> | <b>%</b>   |
|                                            | <b>(dollars in thousands)</b>        |                 |                   |            |
| Semiconductor Equipment Segment            | \$ 7,111                             | \$ 5,918        | \$ 1,193          | 20%        |
| Polishing Supplies Segment                 | 1,202                                | 1,367           | (165)             | (12)%      |
| <b>Total</b>                               | <b>\$ 8,313</b>                      | <b>\$ 7,285</b> | <b>\$ 1,028</b>   | <b>14%</b> |
| Percent of net revenue                     | 21%                                  | 26%             |                   |            |

Total selling, general and administrative expenses as a percentage of net revenue decreased to 21% in fiscal 2006 from 26% in fiscal 2005, as a result of higher sales. The \$1.0 million increase over fiscal 2005 was due to (i) approximately \$0.2 million in increased personnel costs to support the increase in revenue and the increased regulatory obligations associated with being a public company, (ii) increased commissions of approximately \$0.2 million resulting from the increased revenue, (iii) \$0.2 million in increased non-cash stock-based compensation

costs during fiscal 2006 related to the adoption of SFAS 123(R) and (iv) increased legal fees associated with the restructuring of our legal entities in Europe and consulting costs for the initial upgrade of the software used to operate and control our operations in Europe.

### Restructuring Charges

In June 2006, we adopted a plan to consolidate the manufacturing of our automation product line into facilities already used to manufacture diffusion furnaces. Our automation products are often sold in conjunction with the sale of new diffusion furnaces. As a result of this decision, we recorded \$0.2 million of restructuring charges in fiscal 2006. No comparable costs were incurred in fiscal 2005.

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### Research and Development

| Research and Development        | Years Ended<br>September 30, |        | Increase<br>(Decrease) | %     |
|---------------------------------|------------------------------|--------|------------------------|-------|
|                                 | 2006                         | 2005   |                        |       |
|                                 | (dollars in thousands)       |        |                        |       |
| Semiconductor Equipment Segment | \$ 437                       | \$ 627 | \$ (190)               | (30)% |
| Polishing Supplies Segment      | □                            | □      | □                      | 0%    |
| Total                           | \$ 437                       | \$ 627 | \$ (190)               | (30)% |
| Percent of net revenue          | 1%                           | 2%     |                        |       |

Development work on the small batch vertical furnace product line in fiscal 2005 was the primary factor in the \$0.2 million decrease in research and development expenses in fiscal 2006 compared to the prior year. Reimbursements of research and development costs in the form of governmental research and development grants amounted to \$0.1 million in fiscal 2006 and 2005, and are netted against these expenses.

### Income Tax Provision

In fiscal 2004, we recorded a valuation allowance for the total of our deferred tax assets, including a net operating loss carryforward. As the deferred tax assets increased or decreased, we recorded an additional tax provision or recognized a benefit, respectively, so that the valuation allowance remained equal to the total of our deferred tax assets. During fiscal 2006, our deferred tax assets declined by \$0.2 million, resulting in a decline in our valuation allowance and an equal amount of tax benefit. This resulted in an effective tax rate for fiscal 2006 of 17.5%, compared to a small tax benefit in fiscal 2005. Our future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of our pre-tax income, the level of expenses that are not deductible for tax purposes, changes in our deferred tax assets and the effectiveness of our tax planning strategies.

### Liquidity and Capital Resources

In February 2007, we completed the sale of approximately 3 million shares of common stock in a public offering for \$7.05 per share. The net proceeds of the sale of common stock after offering expenses and underwriting fees was approximately \$19.4 million. We intend to use the remaining proceeds from this offering for working capital and other general corporate purposes, including possible future product or business acquisitions in connection with the planned expansion of our solar and semiconductor businesses.

As of September 30, 2007, and 2006, cash, cash equivalents and restricted cash were \$18.8 million, and \$6.4 million, respectively. Our working capital increased \$18.6 million to \$30.5 million as of September 30, 2007, compared to \$11.9 million as of September 30, 2006. Our ratio of current assets to current liabilities increased to 3.6:1 as of September 30, 2007 from 2.6:1 as of September 30, 2006. The increase in cash and working capital resulted primarily from the \$19.4 million raised from the public offering of common stock during February 2007. The increase was partially offset by \$4.2 million of capital expenditures, primarily a building acquired in The Netherlands, which is expected to increase the capacity of our semiconductor and solar equipment segment.

As of September 30, 2007, our principal sources of liquidity consisted of \$18.4 million of cash and cash equivalents, \$0.4 million of restricted cash and \$2.0 million in available domestic credit facilities. Restricted cash consists of bank guarantees in excess of our European overdraft facility. The bank guarantees are required by

certain customers from whom amounts have been received in advance of shipment. Our revolving line of credit with Silicon Valley Bank contains certain financial and other covenants. We were in compliance with these covenants and had no outstanding borrowings under these lines as of September 30, 2007. Effective June 30, 2007, we terminated the \$1.0 million export credit facility at no cost to us.

The success of our growth strategy is dependent upon the availability of additional capital resources on terms satisfactory to management. Our sources of capital in the past have included capital leases, long-term debt and the sale of equity securities, which include common and preferred stock sold in private transactions and public offerings. Subsequent to September 30, 2007, we utilized approximately \$7.1 million of cash, \$6.1 million to acquire R2D Ingenierie and made a working capital infusion to R2D of \$1.0 million that was used to satisfy certain outstanding obligations. R2D is a solar cell and semiconductor automation equipment manufacturing company located near Montpellier, France. Also, subsequent to September 30, 2007, we completed the sale of 2.5 million shares of common

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stock in a public offering for \$14.41 per share. The net proceeds of the sale of common stock after offering expenses and underwriting fees was approximately \$33.5 million excluding possible proceeds from the exercise of the underwriters' right to purchase an additional 375,000 shares. The availability of such capital resources in the future depends on the condition of the relevant debt or equity markets and our long-term and recent operating performance and financial condition. There can be no assurance that we can raise such additional capital resources on satisfactory terms. We intend to use the net proceeds from this offering for working capital and other general corporate purposes. Pending application of these proceeds, we intend to invest the net proceeds in short-term, interest bearing investment grade securities.

The table below provides selected consolidated cash flow information (in thousands) for the periods indicated:

|                                                     | <b>Fiscal Years Ended September 30,</b> |             |             |
|-----------------------------------------------------|-----------------------------------------|-------------|-------------|
|                                                     | <b>2007</b>                             | <b>2006</b> | <b>2005</b> |
| Net cash provided by (used in) operating activities | \$ (2,276)                              | \$ 3,335    | \$ (323)    |
| Net cash (used in) investing activities             | \$ (4,878)                              | \$ (956)    | \$ (279)    |
| Net cash provided by financing activities           | \$ 19,554                               | \$ 782      | \$ 2,302    |

#### ***Cash Flows from Operating Activities***

Cash used in our operating activities was \$2.3 million in fiscal 2007, compared to the \$3.3 million of cash provided from such activities during fiscal 2006. During fiscal 2007, cash was primarily used to finance business growth, including increases in accounts receivable (\$4.7 million), inventory (\$2.1 million) and prepaid and other current assets (\$0.9 million). This decrease in cash was partially offset by increases in accrued liabilities and customer deposits of \$2.4 million, deferred profit of \$0.9 million and accounts payable of \$0.2 million.

#### ***Cash Flows from Investing Activities***

Our investing activities for fiscal 2007, 2006 and 2005 used \$4.9 million, \$1.0 million and \$0.3 million, respectively. During fiscal 2007, the most significant investment was approximately \$3.7 million for the purchase of and improvements to a 48,000 sq. ft. manufacturing facility located in Vaassen, The Netherlands. Another significant investment in fiscal 2007 was \$0.3 million paid for a license to certain solar PECVD technology from the licensor. Other investments in fiscal 2007, 2006 and 2005 consisted primarily of purchases of manufacturing equipment and research and development equipment and upgrades to information systems.

#### ***Cash Flows from Financing Activities***

Cash provided by our financing activities for fiscal 2007 was \$19.6 million, which primarily consists of the \$19.4 million, net of expenses, raised in our common stock offering. Other financing activities during fiscal 2007 include equipment financing of \$0.4 million, payments on debt of \$0.3 million and \$0.1 million from the exercise of stock options. Fiscal 2006 cash provided from financing activities consists primarily of \$0.8 million from the exercise of warrants and stock options, \$0.1 million of net short-term bank borrowings and \$0.1 million excess tax benefit of stock options. This was partially offset by \$0.1 million of net payments on long-term obligations and \$0.1 million in cash dividends paid on preferred stock. This compares to \$2.3 million of cash provided by financing activities in fiscal 2005, primarily from the issuance of preferred stock and other borrowings.

We currently anticipate that our existing cash balances, the cash that we expect to generate from our operating activities and available borrowings under our lines of credit will be sufficient to meet our anticipated cash needs for current operations for at least the next 12 months.

### Off-Balance Sheet Arrangements

As of September 30, 2007, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K promulgated by the Securities and Exchange Commission.

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### Contractual Obligations and Commercial Commitments

We had the following contractual obligations and commercial commitments as of September 30, 2007:

| Contractual Obligations           | Total    | Less<br>than 1<br>year | 1-3<br>years | 3-5<br>years | More<br>than 5<br>years |
|-----------------------------------|----------|------------------------|--------------|--------------|-------------------------|
| (dollars in thousands)            |          |                        |              |              |                         |
| Long-term debt obligations        | \$ 968   | \$ 224                 | \$ 228       | \$ 128       | \$ 388                  |
| Operating lease obligations:      |          |                        |              |              |                         |
| Buildings                         | 1,045    | 406                    | 436          | 203          | □                       |
| Office equipment                  | 106      | 23                     | 46           | 37           | □                       |
| Vehicles                          | 184      | 112                    | 67           | 5            | □                       |
| Total operating lease obligations | 1,335    | 541                    | 549          | 245          | □                       |
| Purchase obligations              | 7,232    | 7,232                  | □            | □            | □                       |
| Total                             | \$ 9,535 | \$ 7,997               | \$ 777       | \$ 373       | \$ 388                  |
| Other commercial obligations:     |          |                        |              |              |                         |
| Bank guarantees                   | \$ (800) | \$ (800)               | \$ □         | \$ □         | \$ □                    |

As of September 30, 2007, we had \$7.2 million in purchase obligations compared to \$5.7 million and \$2.7 million as of September 30, 2006 and 2005, respectively. The increase in purchase obligations is mainly a result of increasing backlog which requires higher inventories and purchase commitments due to higher volume. We have also increased our volume purchasing to reduce costs, and we have experienced longer lead-times required by our suppliers.

### Critical Accounting Policies

□Management□s Discussion and Analysis of Financial Condition and Results of Operations□ discusses our consolidated financial statements that have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the financial statements, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period.

On an on-going basis, we evaluate our estimates and judgments, including those related to revenue recognition, inventory valuation, accounts receivable collectibility, warranty and impairment of long-lived assets. We base our estimates and judgments on historical experience and on various other factors that we believe to be reasonable under the circumstances. The results of these estimates and judgments form the basis for making conclusions about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

A critical accounting policy is one that is both important to the presentation of our financial position and results of operations, and requires management□s most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. These uncertainties are discussed in □ITEM 1A. RISK FACTORS□. We believe the following critical accounting policies affect the more significant judgments and estimates used in the preparation of our consolidated financial statements.

**Revenue Recognition.** We review product and service sales contracts with multiple deliverables to determine if separate units of accounting are present in the arrangements. Where separate units of accounting exist, revenue is allocated to delivered items equal to the total sales price less the greater of (1) the relative fair value of the undelivered items, and (2) all contingent portions of the sales arrangement.

We recognize revenue when persuasive evidence of an arrangement exists; the product has been delivered and title has transferred, or services have been rendered; the seller's price to the buyer is fixed or determinable and collectibility is reasonably assured. For us, this policy generally results in revenue recognition at the following points:

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- For the semiconductor and solar equipment segment, transactions where legal title passes to the customer upon shipment, we recognize revenue upon shipment for those products where the customer's defined specifications have been met with at least two similarly configured systems and processes for a comparably situated customer. However, a portion of the revenue associated with certain installation-related tasks, equal to the greater of the relative fair value of those tasks or the portion of the contract price contingent upon their completion, generally 10%-20% of the system's selling price (the "holdback"), and directly related costs, if any, are deferred and recognized into income when the tasks are completed. Since we defer only those costs directly related to installation or other unit of accounting not yet delivered and the portion of the contract price is often considerably greater than the fair market value of those items, our policy at times will result in deferral of profit that is disproportionately greater than the deferred revenue. When this is the case, the gross profit recognized in one period will be lower and the gross profit reported in a subsequent period will improve.
- For products where the customer's defined specifications have not been met with at least two similarly configured systems and processes, the revenue and directly related costs are deferred at the time of shipment and recognized into income at the time of customer acceptance or when this criterion has been met. We have, on occasion, experienced longer than expected delays in receiving cash from certain customers pending final installation or system acceptance. If some of our customers refuse to pay the final payment, or otherwise delay final acceptance or installation, the deferred revenue would not be recognized, adversely affecting our future operating results.
- Equipment sold by the polishing supplies segment does not include process guarantees, acceptance criteria or holdbacks; therefore, the related revenue is recorded upon transfer of title which is generally at time of shipment. Our shipping terms for both segments are customarily FOB our shipping point or equivalent terms.
- For all segments, sales of spare parts and consumables are recognized upon shipment, as there are no post shipment obligations other than standard warranties.
- Service revenue is recognized upon performance of the services requested by the customer. Revenue related to service contracts is recognized ratably over the period of the contract or in accordance with the terms of the contract, which generally coincides with the performance of the services requested by the customer.

**Deferred Tax Asset Valuation Allowance.** We currently have significant deferred tax assets resulting from expenses not currently deductible for tax purposes, revenue recognized for tax purposes but deferred for financial statement purposes and net operating loss carryforwards that will reduce taxable income in future periods. During fiscal 2004, we established a valuation allowance for the total of our deferred tax assets. SFAS No. 109 requires a valuation allowance be established when it is "more likely than not" that all or a portion of deferred tax assets will not be realized. It also states that it is difficult to conclude that a valuation allowance is not needed when there is negative evidence such as cumulative losses in recent years. Therefore, the cumulative losses weigh heavily in the overall assessment. Each quarter, we analyze each deferred tax asset to determine the amount that is more likely than not to be realized, based upon the weight of available evidence, and adjust the valuation allowance to the amount of deferred taxes that do not meet the criteria for recognition under SFAS No. 109.

**Inventory Valuation.** We value our inventory at the lower of cost (first-in, first-out method) or net realizable value. We regularly review inventory quantities and record a write-down for excess and obsolete inventory. The write-down is primarily based on historical inventory usage adjusted for expected changes in product demand and production requirements. However, our industry is characterized by customers in highly cyclical industries,

rapid technological changes, frequent new product developments and rapid product obsolescence. While the inventories acquired in the Bruce Technologies transaction will require several years to consume in production and through spare parts sales, management believes the write-downs taken are sufficient to protect against future losses, as this product line is receiving greater attention under its current ownership. Changes in demand for our products and product mix could result in further write-downs.

**Allowance for Doubtful Accounts.** We maintain an allowance for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. This allowance is based on historical experience, credit evaluations, specific customer collection history and any customer-specific issues we have identified. Since a significant portion of our revenue is derived from the sale of high-value systems, our accounts receivable are often concentrated in a relatively few number of customers. A significant change in the liquidity or financial position of any one of these customers could have a material adverse impact on the collectibility of our accounts receivable and our future operating results.

**Warranty.** We provide a limited warranty, generally for 12 to 24 months, to our customers. A provision for the estimated cost of providing warranty coverage is recorded upon shipment of all systems. On occasion, we have been required and may be required in the future to provide additional warranty coverage to ensure that the systems are ultimately accepted or to maintain customer goodwill. While our warranty costs have historically been within our expectations and we believe that the amounts accrued for warranty expenditures are sufficient for all systems sold through September 30, 2007, we cannot guarantee that we will continue to experience a similar level of predictability with regard to warranty costs. In addition, technological changes or previously unknown defects in raw materials or components may result in more extensive and frequent warranty service than anticipated, which could result in an increase in our warranty expense.

**Impairment of Long-lived Assets.** We periodically evaluate whether events and circumstances have occurred that indicate the estimated useful lives of long-lived assets or intangible assets may warrant revision or that the remaining balance may not be recoverable. Goodwill is also tested for impairment at least annually. When factors indicate that an asset should be evaluated for possible impairment, we use an estimate of the related undiscounted net cash flows generated by the asset over the remaining estimated life of the asset in measuring whether the asset is recoverable. We make judgments and estimates used in establishing the carrying value of long-lived or intangible assets. Those judgments and estimates could be modified if adverse changes occurred in the future resulting in an inability to recover the carrying value of these assets. We have not experienced any impairment to long-lived assets during fiscal 2007 or 2006. Future adverse changes could be caused by, among other factors, a downturn in the semiconductor industry, a general economic slowdown, reduced demand for our products in the marketplace, poor operating results, the inability to protect intellectual property or changing technologies and product obsolescence.

**Stock-Based Compensation.** On October 1, 2005, the Company adopted Statement of Financial Accounting Standards No. 123(R), "Share-Based Payment" (SFAS 123(R)) and Staff Accounting Bulletin 107, "Share-Based Payment". SFAS 123(R) requires the recognition of compensation costs relating to share-based payment transactions in the financial statements. Prior to the adoption of SFAS 123(R) the Company elected to account for share-based compensation plans using the intrinsic value method under Accounting Principles Board ("APB") Opinion No. 25, "Accounting for Stock Issued to Employees," under which no compensation cost is recognized and the pro forma effects on earnings and earnings per share are disclosed as if the fair value approach had been adopted. Under the fair value method, the estimated fair value of awards is charged to income on a straight-line basis over the requisite service period, which is generally the vesting period. The Company has elected the modified prospective application method of reporting; therefore, prior periods were not restated. Under the modified prospective method, this statement was applied to new awards granted after the time of adoption, as well as to the unvested portion of previously granted awards for which the requisite service had not been rendered as of October 1, 2005. SFAS 123(R) also requires the benefits of tax deductions in excess of recognized compensation cost to be reported as cash flow from financing activities rather than as cash flow from operating activities.

#### **Impact of Recently Issued Accounting Pronouncements**

For discussion of the impact of recently issued accounting pronouncements, see [Item 8: Financial Statements and Supplementary Data] under Footnote 1 [Summary of Significant Accounting Policies] under [Impact of Recently Issued Accounting Pronouncements].

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

### Foreign Currency Risk

We are exposed to foreign currency exchange rates to the extent sales contracts, purchase contracts, assets or liabilities of our European operations are denominated in currencies other than their functional currency. Our operations in Europe, a component of the semiconductor and solar equipment segment, conduct business primarily in their functional currency, the Euro, and the U.S. dollar. Nearly all of the transactions, assets and liabilities of all other operating units are denominated in the U.S. dollar, their functional currency. In fiscal 2007 the U.S. dollar weakened relative to the Euro by 8.1% and strengthened relative to the Euro by 3.3% in 2006. It is highly uncertain how currency exchange rates will fluctuate in the future. Actual changes in foreign exchange rates could adversely affect our operating results or financial condition.

As of September 30, 2007, we did not hold any stand-alone or separate derivative instruments. We incurred net foreign currency transaction losses of \$0.1 million in fiscal 2007 and gains of \$0.1 million in fiscal 2006. As of September 30, 2007, our foreign subsidiaries had \$14.0 million of assets (cash and receivables) denominated in U.S. dollars, rather than Euros, which is their functional currency. A 10% change in the value of the functional currency relative to the non-functional currency would result in a gain or loss of \$1.4 million. As of the end of fiscal 2007 we had \$10.9 million of accounts payable, consisting primarily of amounts owed by foreign subsidiaries to our U.S. companies, denominated in U.S. dollars. Even though the intercompany accounts are eliminated in consolidation, a 10% change in the value of the Euro relative to the U.S. dollar would result in a gain or loss of \$1.1 million. Our net investment in and long-term advances to our foreign operations totaled \$3.8 million as of September 30, 2007. A 10% change in the value of the Euro relative to the U.S. dollar would cause an approximately \$0.4 million foreign currency translation adjustment, a type of other comprehensive income (loss), which would be a direct adjustment to our stockholders' equity.

During fiscal 2007 and 2006, U.S. dollar denominated sales of our European operations were \$9.9 million and \$9.5 million, respectively. As of September 30, 2007, sales commitments denominated in a currency other than the functional currency of our transacting operation totaled \$0.6 million. Our lead-times range between 13 and 20 weeks. A 10% change in the relevant exchange rates between the time the order was taken and the time of shipment would cause our gross profit on such orders to be approximately \$0.1 million less than expected on the date the order was taken.

All operations become less competitive relative to foreign suppliers when their functional currency strengthens relative to that of the foreign supplier. Our European operations are particularly affected when selling to customers in Asia when such customers require a purchase price in U.S. dollars. If the value of the U.S. dollar has strengthened or weakened relative to the Euro our gross margin will be reduced or increased, respectively, relative to prior transactions unless we are able to make a commensurate increase or decrease, respectively, in our selling price.

### Interest Rate Risk

Our exposure to changes in interest rates is limited to interest earned on money market accounts and interest expense on \$0.5 million of long term obligations and intermittent short-term borrowings. This exposure is currently not significant.

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## ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following documents are filed as part of this Annual Report on Form 10-K:

### Financial Statements

|                                                                                                                                       |    |
|---------------------------------------------------------------------------------------------------------------------------------------|----|
| <u>Report of Independent Registered Public Accounting Firm</u>                                                                        | 39 |
| <u>Consolidated Balance Sheets: September 30, 2007 and 2006</u>                                                                       | 40 |
| <u>Consolidated Statements of Operations: Years ended September 30, 2007, 2006 and 2005</u>                                           | 41 |
| <u>Consolidated Statements of Stockholders' Equity and Comprehensive Income (Loss): Years ended September 30, 2007, 2006 and 2005</u> | 42 |
| <u>Consolidated Statements of Cash Flows: Years ended September 30, 2007, 2006 and 2005</u>                                           | 43 |
| <u>Notes to Consolidated Financial Statements</u>                                                                                     | 44 |

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders  
Amtech Systems, Inc.:

We have audited the accompanying consolidated balance sheets of Amtech Systems, Inc. and subsidiaries (the Company) as of September 30, 2007 and 2006 and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss) and cash flows for each of the years in the three year period ended September 30, 2007. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Amtech Systems, Inc. and subsidiaries as of September 30, 2007 and 2006, and the results of their operations and their cash flows for the each of the years in the three year period ended September 30, 2007, in conformity with U.S. generally accepted accounting principles.

/s/ Mayer Hoffman McCann P.C.

Phoenix, Arizona  
December 10, 2007

## PART I FINANCIAL INFORMATION

### AMTECH SYSTEMS, INC. AND SUBSIDIARIES Consolidated Balance Sheets (in thousands except share data)

|                                                                                                                                                                                  | September 30,    |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
|                                                                                                                                                                                  | 2007             | 2006             |
| <b>Assets</b>                                                                                                                                                                    |                  |                  |
| <b>Current Assets</b>                                                                                                                                                            |                  |                  |
| Cash and cash equivalents                                                                                                                                                        | \$ 18,370        | \$ 6,433         |
| Restricted cash                                                                                                                                                                  | 443              | □                |
| Accounts receivable                                                                                                                                                              |                  |                  |
| Trade (less allowance for doubtful accounts of \$126 and \$223 at September 30, 2007 and September 30, 2006, respectively)                                                       | 9,952            | 6,545            |
| Unbilled and other                                                                                                                                                               | 3,127            | 849              |
| Inventories                                                                                                                                                                      | 7,289            | 4,979            |
| Deferred income taxes                                                                                                                                                            | 1,690            | □                |
| Other                                                                                                                                                                            | 1,339            | 414              |
| Total current assets                                                                                                                                                             | 42,210           | 19,220           |
| <b>Property, Plant and Equipment - Net</b>                                                                                                                                       | 6,245            | 2,382            |
| <b>Deferred Income Taxes - Long Term</b>                                                                                                                                         | 30               | □                |
| <b>Intangible Assets - Net</b>                                                                                                                                                   | 1,364            | 1,144            |
| <b>Goodwill</b>                                                                                                                                                                  | 817              | 817              |
| <b>Total Assets</b>                                                                                                                                                              | <b>\$ 50,666</b> | <b>\$ 23,563</b> |
| <b>Liabilities and Stockholders' Equity</b>                                                                                                                                      |                  |                  |
| <b>Current Liabilities</b>                                                                                                                                                       |                  |                  |
| Accounts payable                                                                                                                                                                 | \$ 4,150         | \$ 3,631         |
| Bank loans and current maturities of long-term debt                                                                                                                              | 224              | 258              |
| Accrued compensation and related taxes                                                                                                                                           | 2,139            | 1,390            |
| Accrued warranty expense                                                                                                                                                         | 256              | 289              |
| Deferred profit                                                                                                                                                                  | 2,144            | 1,071            |
| Customer deposits                                                                                                                                                                | 1,824            | □                |
| Other accrued liabilities                                                                                                                                                        | 562              | 379              |
| Income taxes payable                                                                                                                                                             | 419              | 319              |
| Total current liabilities                                                                                                                                                        | 11,718           | 7,337            |
| <b>Other Long-Term Obligations</b>                                                                                                                                               | 744              | 617              |
| Total liabilities                                                                                                                                                                | 12,462           | 7,954            |
| <b>Commitments and Contingencies</b>                                                                                                                                             |                  |                  |
| <b>Stockholders' Equity</b>                                                                                                                                                      |                  |                  |
| Preferred stock; 100,000,000 shares authorized; none issued                                                                                                                      | □                | □                |
| Common stock; \$0.01 par value; 100,000,000 shares authorized; shares issued and outstanding: 6,517,923 and 3,476,042 at September 30, 2007 and September 30, 2006, respectively | 65               | 35               |
| Additional paid-in capital                                                                                                                                                       | 35,610           | 15,774           |
| Accumulated other comprehensive income                                                                                                                                           | 813              | 501              |
| Retained earnings (deficit)                                                                                                                                                      | 1,716            | (701)            |
| Total stockholders' equity                                                                                                                                                       | 38,204           | 15,609           |
| <b>Total Liabilities and Stockholders' Equity</b>                                                                                                                                | <b>\$ 50,666</b> | <b>\$ 23,563</b> |

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

|                                          | Years Ended September 30, |                 |                 |
|------------------------------------------|---------------------------|-----------------|-----------------|
|                                          | 2007                      | 2006            | 2005            |
| Revenues, net of returns and allowances  | \$ 45,984                 | \$ 40,445       | \$ 27,899       |
| Cost of sales                            | 33,174                    | 29,870          | 20,231          |
| Gross profit                             | 12,810                    | 10,575          | 7,668           |
| Selling, general and administrative      | 10,505                    | 8,313           | 7,285           |
| Restructuring charge                     | □                         | 190             | □               |
| Research and development                 | 564                       | 437             | 627             |
| Operating income (loss)                  | 1,741                     | 1,635           | (244)           |
| Interest and other income (expense), net | 336                       | (37)            | 70              |
| Income (loss) before income taxes        | 2,077                     | 1,598           | (174)           |
| Income tax provision (benefit)           | (340)                     | 280             | 85              |
| <b>Net income (loss)</b>                 | <b>\$ 2,417</b>           | <b>\$ 1,318</b> | <b>\$ (259)</b> |

**Income (Loss) Per Share:**

|                                     |         |         |           |
|-------------------------------------|---------|---------|-----------|
| Basic income (loss) per share       | \$ 0.45 | \$ 0.40 | \$ (0.12) |
| Weighted average shares outstanding | 5,419   | 3,126   | 2,705     |
| Diluted income (loss) per share     | \$ 0.44 | \$ 0.38 | \$ (0.12) |
| Weighted average shares outstanding | 5,498   | 3,484   | 2,705     |

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

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**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**Consolidated Statements Of Stockholders' Equity**  
**And Comprehensive Income (Loss)**

|                                      | Common Stock |        | Preferred Stock |          | Accumulated |               | Retained    | Total        |
|--------------------------------------|--------------|--------|-----------------|----------|-------------|---------------|-------------|--------------|
|                                      | Number       |        | Number          |          | Additional  | Other         | Earnings    | Stockholders |
|                                      | of           | Amount | of              | Amount   | Paid-In     | Comprehensive | Accumulated | Equity       |
| (in thousands)                       | Shares       |        | Shares          |          | Capital     | Income (Loss) | Deficit)    |              |
| <b>Balance at September 30, 2004</b> | 2,705        | \$ 27  | □               | \$ □     | \$ 12,888   | \$ 500        | \$ (1,760)  | \$ 11,655    |
| Net loss                             |              |        |                 |          |             |               | (259)       | (259)        |
| Translation adjustment               |              |        |                 |          |             | (96)          |             | (96)         |
| Comprehensive loss                   |              |        |                 |          |             |               |             | (355)        |
| Issuance of preferred stock          |              |        | 540             | 1,859    | 49          |               |             | 1,908        |
| Dividends on preferred stock         |              |        |                 | 76       | (76)        |               |             | □            |
| <b>Balance at September 30, 2005</b> | 2,705        | \$ 27  | 540             | \$ 1,935 | \$ 12,861   | \$ 404        | \$ (2,019)  | \$ 13,208    |
| Net income                           |              |        |                 |          |             |               | 1,318       | 1,318        |
| Translation adjustment               |              |        |                 |          |             | 97            |             | 97           |
| Comprehensive income                 |              |        |                 |          |             |               |             | 1,415        |
| Conversion of preferred stock        | 540          | 5      | (540)           | (1,859)  | 1,854       |               |             | □            |

|                                         |       |       |  |    |      |           |        |          |           |        |
|-----------------------------------------|-------|-------|--|----|------|-----------|--------|----------|-----------|--------|
| Dividends on preferred stock            |       |       |  |    | 81   | (81)      |        |          |           |        |
| Preferred cash dividend paid            |       |       |  |    | (83) |           |        |          |           | (83)   |
| Preferred dividend paid in common stock | 9     |       |  |    | (74) | 74        |        |          |           |        |
| Warrants exercised                      | 60    | 1     |  |    |      | 252       |        |          |           | 253    |
| Tax benefit of stock options            |       |       |  |    |      | 134       |        |          |           | 134    |
| Stock options expense                   |       |       |  |    |      | 176       |        |          |           | 176    |
| Stock options exercised                 | 162   | 2     |  |    |      | 504       |        |          |           | 506    |
| <b>Balance at September 30, 2006</b>    | 3,476 | \$ 35 |  | \$ |      | \$ 15,774 | \$ 501 | \$ (701) | \$ 15,609 |        |
| Net income                              |       |       |  |    |      |           |        | 2,417    | 2,417     |        |
| Translation adjustment                  |       |       |  |    |      |           | 312    |          | 312       |        |
| Comprehensive income                    |       |       |  |    |      |           |        |          |           | 2,729  |
| Issuance of common stock                | 3,019 | 30    |  |    |      | 19,380    |        |          |           | 19,410 |
| Stock options expense                   |       |       |  |    |      | 347       |        |          |           | 347    |
| Stock options exercised                 | 23    |       |  |    |      | 109       |        |          |           | 109    |
| <b>Balance at September 30, 2007</b>    | 6,518 | \$ 65 |  | \$ |      | \$ 35,610 | \$ 813 | \$ 1,716 | \$ 38,204 |        |

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

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**Consolidated Statements Of Cash Flows**  
**(in thousands)**

|                                                                                                    | Year Ended September 30, |          |          |
|----------------------------------------------------------------------------------------------------|--------------------------|----------|----------|
|                                                                                                    | 2007                     | 2006     | 2005     |
| <b>Operating Activities</b>                                                                        |                          |          |          |
| Net income (loss)                                                                                  | \$ 2,417                 | \$ 1,318 | \$ (259) |
| Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities: |                          |          |          |
| Depreciation and amortization                                                                      | 706                      | 642      | 675      |
| Write-down of inventory                                                                            | 210                      | 114      | 291      |
| Provision for (reversal of) allowance for doubtful accounts                                        | (95)                     | 36       | 76       |
| Deferred income taxes                                                                              | (1,720)                  |          |          |
| Non-cash share based compensation expense                                                          | 347                      | 176      |          |
| Other                                                                                              | (16)                     |          | 14       |
| Changes in operating assets and liabilities:                                                       |                          |          |          |
| Accounts receivable                                                                                | (4,718)                  | (2,281)  | (1,437)  |

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|                                                         |           |          |          |
|---------------------------------------------------------|-----------|----------|----------|
| Inventories                                             | (2,146)   | (676)    | 1,498    |
| Accrued income taxes                                    | 70        | 735      | 212      |
| Prepaid expenses and other assets                       | (891)     | 281      | (329)    |
| Accounts payable                                        | 206       | 2,383    | (312)    |
| Accrued liabilities and customer deposits               | 2,427     | 181      | (240)    |
| Deferred profit                                         | 927       | 426      | (512)    |
| Net cash provided by (used in) operating activities     | (2,276)   | 3,335    | (323)    |
| <b>Investing Activities</b>                             |           |          |          |
| Purchases of property, plant and equipment              | (4,161)   | (956)    | (279)    |
| Proceeds from the sale of property, plant and equipment | 26        | □        | □        |
| Increase in restricted cash                             | (443)     | □        | □        |
| Payment for licensing agreement                         | (300)     | □        | □        |
| Net cash used in investing activities                   | (4,878)   | (956)    | (279)    |
| <b>Financing Activities</b>                             |           |          |          |
| Proceeds from issuance of common stock, net             | 19,519    | 759      | □        |
| Proceeds from issuance of preferred stock               | □         | □        | 1,908    |
| Preferred stock cash dividends paid                     | □         | (84)     | □        |
| Payments on long-term obligations                       | (209)     | (138)    | (106)    |
| Borrowings on long-term obligations                     | 355       | □        | 500      |
| Net short-term borrowings (payments)                    | (111)     | 111      | □        |
| Excess tax benefit of stock options                     | □         | 134      | □        |
| Net cash provided by financing activities               | 19,554    | 782      | 2,302    |
| <b>Effect of Exchange Rate Changes on Cash</b>          | (463)     | (37)     | (65)     |
| <b>Net Increase in Cash and Cash Equivalents</b>        | 11,937    | 3,124    | 1,635    |
| <b>Cash and Cash Equivalents, Beginning of Year</b>     | 6,433     | 3,309    | 1,674    |
| <b>Cash and Cash Equivalents, End of Year</b>           | \$ 18,370 | \$ 6,433 | \$ 3,309 |
| <b>Supplemental Cash Flow Information:</b>              |           |          |          |
| Interest paid                                           | \$ 301    | \$ 131   | \$ 80    |
| Income tax refunds                                      | 159       | 617      | □        |
| Income tax payments                                     | 1,309     | 24       | 141      |
| <b>Supplemental Non-cash Financing Activities:</b>      |           |          |          |
| Stock issued for preferred stock dividend               | □         | 74       | □        |
| Preferred stock dividend accrual                        | □         | 81       | 76       |
| Preferred stock converted to common stock               | □         | 1,859    | □        |
| Warrant issued                                          | □         | □        | 49       |

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

## Notes to Consolidated Financial Statements

### For the Years Ended September 30, 2007, 2006 and 2005

#### 1. Summary of Significant Accounting Policies

**Nature of Operations and Basis of Presentation** □ Amtech Systems, Inc. (the "Company") designs, assembles, sells and installs capital equipment and related consumables used in the manufacture of wafers, primarily for the semiconductor and solar industries. The Company sells these products to manufacturers of silicon wafers, semiconductors and solar cells worldwide, particularly in the United States, Asia and northern Europe. In addition, the Company provides semiconductor manufacturing support services.

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The Company serves niche markets in industries that are experiencing rapid technological advances, and which historically have been very cyclical. Therefore, future profitability and growth depend on the Company's ability to develop or acquire and market profitable new products, and on its ability to adapt to cyclical trends.

**Principles of Consolidation** The consolidated financial statements include the accounts of Amtech and its wholly owned subsidiaries. All material intercompany accounts and transactions have been eliminated in consolidation.

**Use of Estimates** The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

**Revenue Recognition** Revenue is recognized upon shipment of the Company's proven technology equal to the sales price less the greater of (i) the fair value of undelivered services and (ii) the contingent portion of the sales price, which is generally 10-20% of the total contract price. The entire cost of the equipment relating to proven technology is recorded upon shipment. The remaining contractual revenue, deferred costs, and installation costs are recorded upon successful installation of the product.

For purposes of revenue recognition, proven technology means that the Company has a history of at least two successful installations. New technology systems are those systems with respect to which the Company cannot demonstrate that it can meet the provisions of customer acceptance at the time of shipment.

Revenue on new technology is deferred until installation and acceptance at the customer's premises is completed, as these sales do not meet the provisions of customer acceptance at the time of shipment. Cost of the equipment relating to new technology is recorded against deferred profit and then recorded in cost of sales upon customer acceptance.

Revenue from services is recognized as the services are performed. Revenue from prepaid service contracts is recognized ratably over the life of the contract. Revenue from spare parts is recorded upon shipment.

**Deferred Profit** Revenue deferred pursuant to our revenue policy, net of the related deferred costs, if any, is recorded as deferred profit in current liabilities. The components of deferred profit are as follows:

|                   | September 30,          |          |          |
|-------------------|------------------------|----------|----------|
|                   | 2007                   | 2006     | 2005     |
|                   | (dollars in thousands) |          |          |
| Deferred revenues | \$ 3,894               | \$ 2,493 | \$ 1,662 |
| Deferred costs    | 1,750                  | 1,422    | 1,038    |
| Deferred profit   | \$ 2,144               | \$ 1,071 | \$ 624   |

**Restricted Cash** Restricted cash of \$0.4 million as of September 30, 2007 consists of bank guarantees in excess of our European overdraft facility. The bank guarantees are required by certain customers from whom amounts have been received in advance of shipment. There were no restrictions on cash as of September 30, 2006.

**Accounts Receivable and Allowance for Doubtful Accounts** Accounts receivable are recorded at the gross sales price of products sold to customers on trade credit terms. Accounts receivable are considered past due when payment has not been received from the customer within the normal credit terms extended to that customer. Accounts are charged-off against the allowance when the probability of collection is remote.

The following is a summary of the activity in the Company's allowance for doubtful accounts:

|  | Years Ended September 30, |      |      |
|--|---------------------------|------|------|
|  | 2007                      | 2006 | 2005 |

|                              | (dollars in thousands) |        |        |
|------------------------------|------------------------|--------|--------|
| Balance at beginning of year | \$ 223                 | \$ 223 | \$ 188 |
| Provision / (adjustment)     | (81)                   | 43     | 76     |
| Write offs                   | (16)                   | (43)   | (41)   |
| Balance at end of year       | \$ 126                 | \$ 223 | \$ 223 |

**Accounts Receivable – Unbilled and Other** Unbilled and other accounts receivable consist mainly of the contingent portion of the sales price that is not collectible until successful installation of the product. These amounts are generally billed upon final acceptance by our customers. The majority of these amounts are offset by balances included in deferred profit.

**Concentrations of Credit Risk** Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of trade accounts receivable. The Company's customers consist of manufacturers of semiconductors, semiconductor wafers, MEMS and solar cells located throughout the world. Credit risk is managed by performing ongoing credit evaluations of the customers' financial condition, by requiring significant deposits where appropriate, and by actively monitoring collections. Letters of credit are required of certain customers depending on the size of the order, type of customer or its creditworthiness, and its country of domicile. Reserves for potentially uncollectible receivables are maintained based on an assessment of collectibility.

As of September 30, 2007, receivables from three customers individually represented 22%, 13% and 10% of accounts receivable. As of September 30, 2006, receivables from three customers individually represented 19%, 13%, and 12% of accounts receivable, respectively.

Refer to Note 10, Business Segment Information, for information regarding revenue and assets in other countries subject to foreign currency exchange rates.

**Inventories** Inventories are stated at the lower of cost (first-in, first-out method) or net realizable value. The components of inventories are as follows:

|                                   | September<br>30,<br>2007 | September 30,<br>2006 |
|-----------------------------------|--------------------------|-----------------------|
|                                   | (In thousands)           |                       |
| Purchased parts and raw materials | \$ 5,291                 | \$ 3,400              |
| Work-in-process                   | 1,456                    | 1,159                 |
| Finished goods                    | 542                      | 420                   |
|                                   | \$ 7,289                 | \$ 4,979              |

**Property, Plant and Equipment** Property plant, and equipment are recorded at cost. Maintenance and repairs are charged to expense as incurred. The cost of property retired or sold and the related accumulated depreciation are removed from the applicable accounts when disposition occurs and any gain or loss is recognized. Depreciation is computed using the straight-line method. Useful lives for equipment, machinery and leasehold improvements range from three to seven years; for furniture and fixtures from five to ten years; and for buildings twenty years.

In March 2007, the Company purchased a manufacturing facility in The Netherlands for a purchase price of approximately \$3.1 million and has made \$0.6 million in improvements. The following is a summary of property, plant and equipment:

|                                           | September<br>30,<br>2007 | September<br>30,<br>2006 |
|-------------------------------------------|--------------------------|--------------------------|
|                                           | (dollars in thousands)   |                          |
| Land, building and leasehold improvements | \$ 5,105                 | \$ 1,094                 |
| Equipment and machinery                   | 2,874                    | 2,676                    |

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|                                           |          |          |
|-------------------------------------------|----------|----------|
| Furniture and fixtures                    | 2,570    | 2,514    |
|                                           | 10,549   | 6,284    |
| Accumulated depreciation and amortization | (4,304)  | (3,902)  |
|                                           | \$ 6,245 | \$ 2,382 |

**Goodwill** Goodwill and intangible assets with indefinite lives are not subject to amortization, but are tested for impairment at least annually. The Company accounts for goodwill under the provisions of SFAS No. 142. Accordingly, goodwill is reviewed for impairment on an annual basis, typically at the end of the fiscal year or more frequently if circumstances dictate. Based on the Company's analysis, there was no impairment of goodwill for the years ended September 30, 2007, 2006 and 2005.

**Intangibles** Intangible assets are capitalized and amortized over 4 to 15 years if the life is determinable. If the life is not determinable, amortization is not recorded. Amortization expense related to intangible assets was \$80,000, \$84,000 and \$117,000 in fiscal 2007, 2006 and 2005, respectively. The aggregate amortization expense for the intangible assets for each of the five succeeding fiscal years is estimated to be \$88,000, \$83,000, \$83,000, \$83,000, \$83,000 and \$942,000 in 2008, 2009, 2010, 2011, 2012 and thereafter, respectively.

In April 2007, the company entered into a license agreement with PST Co., LTD (PST) to market, sell, install, service and manufacture machinery and equipment for the manufacturing of photovoltaic cells that employs PECVD Technology (Licensed Product) developed by PST. Under the terms of this agreement the Company paid \$0.3 million to PST in April, with an additional payment due of \$0.7 million upon the development of the Licensed Product. Under the terms of the agreement PST is required to return the original payment if the development of the Licensed Product is unsuccessful. The license agreement expires in April 2017. These payments will be amortized over the life of the agreement beginning with the successful development of the Licensed Product.

The following is a summary of intangibles:

|                          | Useful Life | September 30, 2007 | September 30, 2006 |
|--------------------------|-------------|--------------------|--------------------|
| (dollars in thousands)   |             |                    |                    |
| Patents                  | 7 yrs       | \$ 0               | \$ 74              |
| Trademarks               | Indefinite  | 592                | 592                |
| Non-compete agreements   | 10 yrs      | 350                | 350                |
| Customer lists           | 15 yrs      | 276                | 276                |
| Technology               | 4 yrs       | 102                | 102                |
| Licenses                 | 10 years    | 300                | 0                  |
|                          |             | 1,620              | 1,394              |
| Accumulated amortization |             | (256)              | (250)              |
|                          |             | \$ 1,364           | \$ 1,144           |

**Proprietary Product Rights** Through the acquisition of the net assets of P. R. Hoffman in 1997, the Company acquired the license for the design of its steel carriers with plastic inserts for abrasive machining of silicon wafers. In 1995, P. R. Hoffman licensed the patent rights from the patent holder, and paid a royalty to the patent holder for the use of such patent rights. Per the license agreement, royalties ceased to accrue on July 2, 2006. Royalty expense for all licenses is included in cost of sales and totaled \$26,000, \$113,000 and \$149,000 in fiscal 2007, 2006 and 2005, respectively.

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**Warranty** A limited warranty is provided free of charge, generally for periods of 12 to 24 months to all purchasers of the Company's new products and systems. Accruals are recorded for estimated warranty costs at the time revenue is recognized. The following is a summary of activity in accrued warranty expense:

|                        | Years Ended September 30, |        |        |
|------------------------|---------------------------|--------|--------|
|                        | 2007                      | 2006   | 2005   |
| (dollars in thousands) |                           |        |        |
| Beginning balance      | \$ 289                    | \$ 248 | \$ 260 |

|                       |        |        |        |
|-----------------------|--------|--------|--------|
| Warranty expenditures | (84)   | (54)   | (52)   |
| Reserve Adjustment    | 51     | 95     | 40     |
| Ending balance        | \$ 256 | \$ 289 | \$ 248 |

**Research and Development Expenses** □ Product development costs are expensed as incurred.

**Foreign Currency Transactions and Translation** □ Financial information relating to the Company's foreign subsidiaries is reported in accordance with SFAS No. 52, □Foreign Currency Translation.□ The functional currency of the Company's European operations is the Euro. Net income (loss) includes pretax net gains (losses) from foreign currency transactions of (\$125,000), (\$62,000), and \$105,000 in fiscal 2007, 2006 and 2005, respectively. The gains or losses resulting from the translation of Tempress' financial statements have been included in other comprehensive income (loss).

**Income Taxes** □ The Company files consolidated federal income tax returns and computes deferred income tax assets and liabilities based upon cumulative temporary differences between financial reporting and taxable income, carryforwards available and enacted tax laws.

Deferred tax assets reflect the tax effects of temporary differences between the carrying value of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. SFAS No. 109 □Accounting for Income Taxes□ requires that a valuation allowance is recognized if, based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. Each quarter the valuation allowance is re-evaluated. During fiscal 2007, continued improvement in both our earnings history and our prospects for the future resulted in a \$1.2 million lower estimate of the amount of deferred assets that more likely than not will be unrealizable. Tax payments of \$1.3 million were made during 2007. During fiscal 2007, the Company also recorded an increase of \$0.5 million in deferred tax assets for items that meet the more likely than not criteria for recognition under SFAS No. 109.

**Stock-Based Compensation** □On October 1, 2005, the Company adopted Statement of Financial Accounting Standards No. 123(R), □Share-Based Payment□ (SFAS 123(R)) and Staff Accounting Bulletin 107, □Share-Based Payment□. SFAS 123(R) requires the recognition of compensation costs relating to share-based payment transactions in the financial statements. Prior to the adoption of SFAS 123(R) the Company elected to account for share-based compensation plans using the intrinsic value method under Accounting Principles Board (□APB□) Opinion No. 25, □Accounting for Stock Issued to Employees,□ under which no compensation cost is recognized and the pro forma effects on earnings and earnings per share are disclosed as if the fair value approach had been adopted. Under the fair value method, the estimated fair value of awards is charged to income on a straight-line basis over the requisite service period, which is generally the vesting period. The Company has elected the modified prospective application method of reporting; therefore, prior periods were not restated. Under the modified prospective method, this statement was applied to new awards granted after the time of adoption, as well as to the unvested portion of previously granted awards for which the requisite service had not been rendered as of October 1, 2005. SFAS 123(R) also requires the benefits of tax deductions in excess of recognized compensation cost to be reported as cash flow from financing activities rather than as cash flow from operating activities.

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Stock-based compensation expense recognized under SFAS 123(R) for the fiscal years ended September 30, 2007 and 2006 reduced the Company's results of operations as follows:

|                                      | Years Ended September 30,                        |           |
|--------------------------------------|--------------------------------------------------|-----------|
|                                      | 2007                                             | 2006      |
|                                      | (dollars in thousands, except per share amounts) |           |
| Effect on income before income taxes | \$ (347)                                         | \$ (176)  |
| Effect on net income                 | \$ (295)                                         | \$ (88)   |
| Effect on basic income per share     | \$ (0.06)                                        | \$ (0.03) |
| Effect on diluted income per share   | \$ (0.06)                                        | \$ (0.03) |

The following table illustrates the pro-forma effect on net loss and on net loss per share, as if the fair value recognition provisions of SFAS No. 123 had been applied:

|                                                                        | Year Ended<br>September 30,<br>2005<br>(dollars in<br>thousands,<br>except per share<br>amounts) |        |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------|
| Net loss, as reported                                                  | \$                                                                                               | (259)  |
| Add: Stock-based compensation included in net loss as reported         |                                                                                                  | □      |
| Less: Stock-based compensation under the fair-value method, net of tax |                                                                                                  | 279    |
| Net loss, pro forma                                                    | \$                                                                                               | (538)  |
| Basic Loss Per Share:                                                  |                                                                                                  |        |
| As reported                                                            | \$                                                                                               | (0.12) |
| Pro forma                                                              |                                                                                                  | (0.23) |
| Diluted Loss per Share:                                                |                                                                                                  |        |
| As reported                                                            | \$                                                                                               | (0.12) |
| Pro forma                                                              |                                                                                                  | (0.23) |

Qualified stock options issued under the terms of the plans have, or will have, an exercise price equal to, or greater than, the fair market value of the common stock at the date of the option grant, and expire no later than ten years from the date of grant, with the most recent grant expiring in 2017. Options vest over 1 to 5 years. The Company estimates the fair value of awards on the date of grant using the Black-Scholes option pricing model using the following assumptions.

|                         | Years Ended September 30, |              |              |
|-------------------------|---------------------------|--------------|--------------|
|                         | 2007                      | 2006         | 2005         |
| Risk free interest rate | 4.1% to 4.9%              | 4.4% to 5.1% | 4.0% to 4.2% |
| Expected life           | 2 to 6 years              | 4 to 8 years | 5 years      |
| Dividend rate           | 0%                        | 0%           | 0%           |
| Volatility              | 54% to 69%                | 63% to 101%  | 39% to 40%   |
| Forfeiture rate         | 5%                        | 7%           | □            |

To estimate expected lives for this valuation, it was assumed that options will be exercised at varying schedules after becoming fully vested. In accordance with SFAS 123(R), forfeitures have been estimated at the time of grant and will be revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures were estimated based upon historical experience. Fair value computations are highly sensitive to the volatility factor assumed; the greater the volatility, the higher the computed fair value of the options granted.

**Fair Value of Financial Instruments** □ The carrying values of the Company's current financial instruments approximate fair value due to the short term in which these instruments mature. The carrying values of the Company's line of credit (see Note 5) and long-term debt (see Note 6) approximate fair value because their variable interest rates approximate the prevailing interest rates for similar debt instruments.

### Impact of Recently Issued Accounting Pronouncements

In June 2006, the FASB published FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes, which clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS No. 109, Accounting for Income Taxes. SFAS No. 109 does not prescribe a recognition threshold or measurement attributable for the financial statement recognition and measurement of a tax position taken in a tax return. Diversity in practice exists in the accounting for income taxes. To address that diversity this Interpretation clarifies the application of SFAS No. 109 by defining a criterion that an individual tax position must meet for any part of the benefit of that position to be recognized in an enterprise's financial statements. Additionally, this Interpretation provides guidance on measurement, derecognition, classification, interest and

penalties, accounting in interim periods, disclosure, and transition for such uncertain tax transactions. This Interpretation is effective for the Company's 2008 fiscal year (beginning October 1, 2007). The Company has not yet determined the impact, if any, that the adoption of Interpretation No. 48 will have on its consolidated financial statements.

In September 2006, the FASB issued SFAS No. 157, "Fair Value Measurements". SFAS No. 157 defines fair value, establishes a formal framework for measuring fair value and expands disclosures about fair value measurements. The Company has not yet determined the impact, if any, that SFAS No. 157 will have on its consolidated financial statements. SFAS No. 157 is effective for the Company's fiscal year beginning October 1, 2008.

In February 2007, the FASB issued SFAS No. 159, "The Fair Value Option for Financial Assets and Financial Liabilities (as amended)". SFAS No. 159 permits entities to choose to measure many financial instruments and certain other items at fair value that are not currently required to be measured at fair value. In addition, FAS No. 159 establishes presentation and disclosure requirements designed to facilitate comparisons between entities that choose different measurement attributes for similar types of assets and liabilities. The Company has not yet determined the impact, if any, that SFAS No. 159 will have on its consolidated financial statements. SFAS No. 159 is effective for the Company's fiscal year beginning October 1, 2008.

In December 2007, the FASB issued SFAS No. 141(R), "Business Combinations". This Statement replaces SFAS No. 141, *Business Combinations*. This Statement retains the fundamental requirements in Statement 141 that the acquisition method of accounting (which Statement 141 called the *purchase method*) be used for all business combinations and for an acquirer to be identified for each business combination. This Statement also establishes principles and requirements for how the acquirer: a) recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree; b) recognizes and measures the goodwill acquired in the business combination or a gain from a bargain purchase and c) determines what information to disclose to enable users of the financial statements to evaluate the nature and financial effects of the business combination. SFAS No. 141(R) will apply prospectively to business combinations for which the acquisition date is on or after Company's fiscal year beginning October 1, 2009. While the Company has not yet evaluated this statement for the impact, if any, that SFAS No. 141(R) will have on its consolidated financial statements, the Company will be required to expense costs related to any acquisitions after September 30, 2009.

In December 2007, the FASB issued SFAS No. 160, "Noncontrolling Interests in Consolidated Financial Statements". This Statement amends ARB 51 to establish accounting and reporting standards for the noncontrolling (minority) interest in a subsidiary and for the deconsolidation of a subsidiary. It clarifies that a noncontrolling interest in a subsidiary is an ownership interest in the consolidated entity that should be reported as equity in the consolidated financial statements. The Company has not yet determined the impact, if any, that SFAS No. 160 will have on its consolidated financial statements. SFAS No. 160 is effective for the Company's fiscal year beginning October 1, 2009.

## 2. Stock-Based Compensation

**Stock Option Plans** The 2007 Employee Stock Option Plan (the "2007 Plan"), under which 500,000 shares could be granted, was adopted by the Board of Directors in April 2007, and approved by the shareholders in May 2007. The 1998 Employee Stock Option Plan (the "1998 Plan"), under which 50,000 shares could be granted, was adopted by the Board of Directors in January 1998, and approved by shareholders in March 1998. The number of shares available for options under the 1998 Plan has since been increased to 500,000 shares through authorization by the Board of Directors and approval of shareholders. The 1998 Plan expires in January of 2008 and we expect all remaining available shares to be granted prior to expiration. The Non-Employee Directors Stock Option Plan was approved by the shareholders in 1996 for issuance of up to 100,000 shares of common stock to directors. In July 2005, the Board of Directors authorized, and shareholders approved, an increase in the number of shares available for options under the Non-Employee Directors Stock Option Plan to 200,000 shares.

Stock options issued under the terms of the plans have, or will have, an exercise price equal to or greater than the fair market value of the common stock at the date of the option grant and expire no later than 10 years from the date of grant, with the most recent grant expiring in 2017. Options issued by the Company vest over one to five years. The Company may also grant restricted stock awards under the 2007 Plan.

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Stock-based compensation plans are summarized in the table below:

| Name of Plan                             | Shares<br>Authorized | Shares<br>Available | Options<br>Outstanding | Plan Expiration |
|------------------------------------------|----------------------|---------------------|------------------------|-----------------|
| 2007 Employee Stock Incentive Plan       | 500,000              | 500,000             |                        | April 2017      |
| 1998 Employee Stock Option Plan          | 500,000              | 12,187              | 395,303                | January 2008    |
| Non-Employee Directors Stock Option Plan | 200,000              | 78,600              | 55,000                 | July 2015       |
|                                          |                      | 590,787             | 450,303                |                 |

Stock options were valued using the Black-Scholes option pricing model. See Note 1 for further discussion. Stock option transactions and the options outstanding are summarized as follows:

|                                                                             | Years Ended September 30, |                                          |           |                                          |         |                                          |
|-----------------------------------------------------------------------------|---------------------------|------------------------------------------|-----------|------------------------------------------|---------|------------------------------------------|
|                                                                             | 2007                      |                                          | 2006      |                                          | 2005    |                                          |
|                                                                             | Options                   | Weighted<br>Average<br>Exercise<br>Price | Options   | Weighted<br>Average<br>Exercise<br>Price | Options | Weighted<br>Average<br>Exercise<br>Price |
| Outstanding at beginning of period                                          | 308,384                   | \$ 5.95                                  | 468,206   | \$ 4.78                                  | 439,017 | \$ 4.83                                  |
| Granted                                                                     | 173,500                   | 7.05                                     | 37,522    | 7.16                                     | 30,789  | 3.99                                     |
| Exercised                                                                   | (23,131)                  | 4.72                                     | (161,446) | 3.14                                     | (100)   | 2.00                                     |
| Forfeited/cancelled                                                         | (8,450)                   | 6.19                                     | (35,898)  | 4.58                                     | (1,500) | 4.36                                     |
| Outstanding at end of period                                                | 450,303                   | 6.44                                     | 308,384   | \$ 5.95                                  | 468,206 | \$ 4.78                                  |
| Exercisable at end of period                                                | 251,254                   | \$ 6.05                                  | 241,752   | \$ 5.91                                  | 348,684 | \$ 4.64                                  |
| Weighted average grant-date fair value of options granted during the period | \$ 4.62                   |                                          | \$ 5.33   |                                          | \$ 1.64 |                                          |

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The following tables summarize information for stock options outstanding and exercisable as of September 30, 2007:

| Range of Exercise Prices | Options Outstanding |                            |                                 |                           |
|--------------------------|---------------------|----------------------------|---------------------------------|---------------------------|
|                          | Number              | Remaining Contractual Life | Weighted Average Exercise Price | Aggregate Intrinsic Value |
|                          | Outstanding         | (in years)                 | Price                           | (in thousands)            |
| \$2.00 - 3.00            | 1,500               | 2.0                        | \$ 2.00                         | \$ 16                     |
| 3.01 - 4.00              | 12,835              | 6.6                        | 3.24                            | 123                       |
| 4.01 - 5.00              | 42,500              | 5.0                        | 4.60                            | 349                       |
| 5.01 - 6.00              | 58,218              | 4.6                        | 5.74                            | 412                       |
| 6.01 - 7.00              | 272,250             | 6.0                        | 6.71                            | 1,664                     |
| 7.01 - 8.00              | 32,000              | 9.4                        | 7.30                            | 177                       |
| 8.01 - 9.00              | 21,000              | 9.1                        | 8.38                            | 93                        |
| 9.01 - 10.00             | 10,000              | 8.4                        | 9.05                            | 38                        |
|                          | 450,303             | 6.2                        | \$ 6.44                         | \$ 2,872                  |
|                          | 431,592             | 6.4                        | \$ 6.07                         | \$ 2,760                  |

Vested and expected to vest as of  
September 30, 2007

| Range of Exercise Prices | Options Exercisable   |                                  |                                          |                                                      |
|--------------------------|-----------------------|----------------------------------|------------------------------------------|------------------------------------------------------|
|                          | Number<br>Exercisable | Remaining<br>Contractual<br>Life | Weighted<br>Average<br>Exercise<br>Price | Aggregate<br>Intrinsic<br>Value<br>(in<br>thousands) |
|                          |                       | (in years)                       |                                          |                                                      |
| \$2.00 - 3.00            | 1,500                 | 2.00                             | \$ 2.00                                  | \$ 16                                                |
| 3.01 - 4.00              | 6,002                 | 5.64                             | 3.25                                     | 57                                                   |
| 4.01 - 5.00              | 37,834                | 4.70                             | 4.57                                     | 312                                                  |
| 5.01 - 6.00              | 47,001                | 4.36                             | 5.72                                     | 334                                                  |
| 6.01 - 7.00              | 150,250               | 3.45                             | 6.52                                     | 946                                                  |
| 7.01 - 8.00              | □                     | □                                | □                                        | □                                                    |
| 8.01 - 9.00              | 2,000                 | 8.56                             | 8.51                                     | 9                                                    |
| 9.01 - 10.00             | 6,667                 | 8.42                             | 9.05                                     | 25                                                   |
|                          | 251,254               | 4.03                             | \$ 6.05                                  | \$ 1,699                                             |

The aggregate intrinsic value in the tables above represents the total pretax intrinsic value, based on the Company's closing stock price of \$12.82 per share as of September 28, 2007, which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of stock options exercised during the fiscal year ended September 30, 2007 was \$0.1 million. The total intrinsic value of stock options exercised during the fiscal years ended September 30, 2006 and 2005 was \$0.8 million and less than \$0.1 million, respectively.

### 3. Earnings Per Share

Basic earnings per share is computed by dividing net income (loss) available to common stockholders (net income less accrued preferred stock dividends) by the weighted average number of common shares outstanding for the period. Diluted earnings per share is computed similarly to basic earnings per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if potentially dilutive common shares had been issued, and the numerator is based on net income. In the case of a net loss, diluted earnings per share is calculated in the same manner as basic earnings per share. Options and warrants of approximately 196,000, 50,000 and 528,000 shares are excluded from the fiscal 2007, 2006 and 2005 earnings per share calculations as they are anti-dilutive.

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|                                                       | 2007<br>(dollars in thousands) | 2006<br>(dollars in thousands, except per share<br>amounts) | 2005<br>(dollars in thousands, except per share<br>amounts) |
|-------------------------------------------------------|--------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| <b>Basic Loss Per Share Computation</b>               |                                |                                                             |                                                             |
| Net Income (loss)                                     | \$ 2,417                       | \$ 1,318                                                    | \$ (259)                                                    |
| Preferred stock dividends                             | □                              | (81)                                                        | (76)                                                        |
| Net income (loss) available to<br>common stockholders | \$ 2,417                       | \$ 1,237                                                    | \$ (335)                                                    |
| Weighted Average Shares Outstanding:                  |                                |                                                             |                                                             |
| Common stock                                          | 5,419                          | 3,126                                                       | 2,705                                                       |
| Basic income (loss) per share                         | \$ 0.45                        | \$ 0.40                                                     | \$ (0.12)                                                   |

| <b>Diluted Loss Per Share Computation</b> |          |          |           |
|-------------------------------------------|----------|----------|-----------|
| Net income (loss)                         | \$ 2,417 | \$ 1,318 | \$ (259)  |
| Weighted Average Shares Outstanding:      |          |          |           |
| Common stock                              | 5,419    | 3,126    | 2,705     |
| Common stock equivalents                  | 79       | 358      | □         |
| Diluted shares                            | 5,498    | 3,484    | 2,705     |
| Diluted income (loss) per share           | \$ 0.44  | \$ 0.38  | \$ (0.12) |

#### 4. Comprehensive Income (Loss)

|                                         | <b>Years Ended September 30,</b> |             |             |
|-----------------------------------------|----------------------------------|-------------|-------------|
|                                         | <b>2007</b>                      | <b>2006</b> | <b>2005</b> |
|                                         | <b>(dollars in thousands)</b>    |             |             |
| Net income (loss), as reported          | \$ 2,417                         | \$ 1,318    | \$ (259)    |
| Foreign currency translation adjustment | 312                              | 97          | (96)        |
| Comprehensive income (loss)             | \$ 2,729                         | \$ 1,415    | \$ (355)    |

#### 5. Line of Credit

On April 7, 2006, the Company entered into domestic and export revolver loan and security agreements (["LSAs"]) with the Silicon Valley Bank and a Working Capital Guarantee Program Borrower Agreement with the Export-Import Bank of the United States, all of which expire April 7, 2008. The Company can borrow a maximum of \$2.0 million under the domestic LSA, subject to the availability of sufficient eligible receivables and inventory, as defined under the agreement, and subject to certain other restrictions. Effective June 30, 2007, the Company terminated the \$1.0 million export revolver loan and security agreement (LSA) with the Silicon Valley Bank and the Working Capital Guarantee Program Borrower Agreement with the Export-Import Bank of the United States. The termination of the agreements was initiated by the Company as it was no longer needed and was carried out at no cost to the Company. The \$2.0 million domestic LSA remains in force with no changes to its terms. The interest rate under the agreements is Silicon Valley Bank's prime rate plus 1%. The fee for the unused portion of the loans is equal to twenty-five hundredths percent (0.25%) per annum of the average unused portion of the revolving line of credit. In the event of a default by the Company under the LSA, Silicon Valley Bank may declare all amounts due under the LSA to be immediately due and payable. In addition, the line of credit is secured by substantially all of the assets of the Company's United States based operations. The LSA includes a covenant requiring a minimum tangible net worth of \$10.0 million. As of September 30, 2007 and 2006, our tangible net worth as defined in the LSA was \$36.0 million and \$13.5 million, respectively. There were no outstanding borrowings under the LSA's as of September 30, 2007 and 2006.

The Company has a line of credit in the amount of Euro 250,000 (approximately \$350,000) as of September 30, 2007. The line of credit accrues interest at a rate of 1.75% over a Netherlands bank's basic interest rate (5.2% and 4.0% at September 30, 2007 and 2006, respectively). The line of credit has no fixed expiration date. The line of credit is secured by a lien on the Company's land and buildings and on trade accounts receivable in The Netherlands. As of September 30, 2007 and 2006, there were no borrowings on the line of credit.

#### 6. Long-Term Obligations

Long-term obligations include a mortgage, secured by a lien on the Company's land and buildings in Heerde, The Netherlands and on trade accounts receivable, in The Netherlands. The principal amount of the mortgage was \$503,000 and \$467,000 as of September 30, 2007 and 2006, respectively. The mortgage matures on July 31, 2029. Principal payments of \$5,700 per quarter are due until the mortgage is retired. Interest is paid monthly at a fixed rate of 4.1% until December 1, 2007, at which time a new fixed rate will be set based on prevailing market conditions. As of December 12, 2007, the Company is still negotiating the rate that will be in effect retroactive to December 1, 2007. There is no penalty for prepayment of the mortgage, as long as the prepayment is made at the end of a fixed rate period as defined in the mortgage agreement.

In December 2004, the Company financed a laser cutting tool purchased in the fourth quarter of fiscal 2004. The Company financed \$500,000 at an interest rate of 6.55% with 48 equal monthly payments of \$12,000, including principal and interest. The outstanding principal balance of this loan was \$170,500 and \$297,000 as of September 30, 2007 and 2006, respectively.

In October 2006, the Company financed a wide burring machine purchased in the fourth quarter of fiscal 2006. The Company financed \$355,000 at an interest rate of 7.43% with 60 equal monthly payments of \$7,000, including principal and interest. The outstanding principal balance of this loan was \$294,500 as of September 30, 2007.

Total maturities of long term debt are \$224,000 in 2008, \$129,000 in 2009, \$99,000 in 2010, \$105,000 in 2011, \$23,000 in 2012 and \$388,000 thereafter.

## **7. Stockholders' Equity**

In February 2007, the Company filed registration statements on Form S-1 with the Securities and Exchange Commission for the sale of 2,625,000 shares of its common stock in an underwritten public offering at a price to the public of \$7.05 per share. The Company also granted the underwriters a 30-day option to purchase up to 393,750 additional shares of common stock to cover over-allotments. Net proceeds to the Company were approximately \$19.4 million including the exercise of the over-allotment, net of \$0.4 million of offering expenses and \$1.5 million of underwriting commissions.

On April 22, 2005, the Company completed a private placement of 540,000 shares of Series A Convertible Preferred Stock, par value \$0.01 per share (the "Preferred Stock"). The gross proceeds of this transaction were \$2,160,000. The placement agent received commissions of 8% of the proceeds, totaling \$172,800, and a non-accountable expense allowance of 2% of the proceeds, totaling \$43,200. The agent also received a warrant to purchase up to 60,000 shares of our Common Stock, \$0.01 par value per share ("Common Stock"), at a price of \$4.67 per share. The warrants were valued at \$49,200 using the Black-Scholes pricing model.

The shares of Preferred Stock were convertible at any time at the option of the holders into shares of Common Stock based upon the liquidation value, as defined, at a fixed conversion rate of \$4.00 per share. In addition, all outstanding shares of Preferred Stock were to be automatically converted into shares of Common Stock in the event that the Common Stock has an average thirty-day trading price of at least \$5.50 per share. The Preferred Stock was automatically converted into 540,000 shares of the Company's common Stock on March 20, 2006.

Each holder of Preferred Stock was entitled to receive cumulative dividends at a rate of \$0.32 per share per annum (or 8%) out of our legally available funds or other assets, payable semi-annually. The first dividend of \$83,323 was paid in cash on October 15, 2006. As permitted under the terms of the Preferred Stock agreement, the Company elected to issue 9,375 shares of Common Stock on March 20, 2006, as payment for the final dividend of \$73,854.

The Company's stockholder rights plan authorizes the distribution of one right for each outstanding common share. Each right entitles the holder to purchase one one-hundredth of a share of Series A Participating Preferred Stock, at a purchase price of \$8.50, subject to certain anti-dilution adjustments. The rights will expire 10 years after issuance and will be exercisable if (a) a person or group becomes the beneficial owner of 15% or more of the Company's common stock or (b) a person or group commences a tender or exchange offer that would result in the offeror beneficially owning 15% or more of the Company's common stock (a "Stock Acquisition Date"). If a Stock Acquisition Date occurs, each right, unless redeemed by the Company at \$0.01 per right, entitles the holder to purchase an amount of the Company's common stock, or in certain circumstances a combination of securities and/or

assets or the common stock of the acquirer, having an equivalent market value of \$17.00 per right at a purchase price of \$8.50. Rights held by the acquiring person or group will become void and will not be exercisable. These rights are not exercisable as of September 30, 2007.

## **8. Commitments and Contingencies**

**License Agreements** In April 2007, the company entered into a license agreement with PST Co., LTD (PST) to market, sell, install, service and manufacture machinery and equipment for the manufacturing of photovoltaic

cells that employs PECVD Technology (Licensed Product) developed by PST. Under the terms of this agreement the Company paid \$0.3 million to PST in April, with an additional payment due of \$0.7 million upon the development of the Licensed Product. Under the terms of the agreement PST is required to return the original payment if the development of the Licensed Product is unsuccessful.

**Purchase Obligations** □ As of September 30, 2007, we had unrecorded purchase obligations in the amount of \$7.2 million. These purchase obligations consist of outstanding purchase orders for goods and services. While the amount represents purchase agreements, the actual amounts to be paid may be less in the event that any agreements are renegotiated, cancelled or terminated.

**Legal Proceedings** □ The Company and its subsidiaries are defendants from time to time in actions for matters arising out of their business operations. The Company does not believe that any matters or proceedings presently pending will have a material adverse effect on its consolidated financial position, results of operations or liquidity.

**Operating Leases** □ The Company leases buildings, vehicles and equipment under operating leases. Rental expense under such operating leases was \$857,000, \$741,000 and \$611,000 in fiscal 2007, 2006 and 2005, respectively. As of September 30, 2007, future minimum rental commitments under non-cancelable operating leases with initial or remaining terms of one year or more totaled \$1,335,000, of which \$541,000, \$286,000, \$263,000, \$231,000 and \$14,000 is payable in fiscal 2007, 2008, 2009, 2010 and 2011 respectively.

## 9. Major Customers and Foreign Sales

One customer accounted for 13% of net revenue during fiscal 2007. One customer accounted for 17% of net revenue during fiscal 2006. No customer accounted for 10% or more of net revenue during fiscal 2005.

Our net revenues for fiscal 2007, 2006 and 2005 were to customers in the following geographic regions:

|                            | Years Ended September 30, |             |             |
|----------------------------|---------------------------|-------------|-------------|
|                            | 2007                      | 2006        | 2005        |
| United States              | 28%                       | 34%         | 36%         |
| Other                      | 0%                        | 1%          | 4%          |
| <b>Total North America</b> | <b>28%</b>                | <b>35%</b>  | <b>40%</b>  |
| Taiwan                     | 18%                       | 9%          | 16%         |
| China                      | 18%                       | 4%          | 9%          |
| Malaysia                   | 5%                        | 13%         | 1%          |
| Other                      | 11%                       | 15%         | 10%         |
| <b>Total Asia</b>          | <b>52%</b>                | <b>41%</b>  | <b>36%</b>  |
| Germany                    | 6%                        | 13%         | 6%          |
| Other                      | 14%                       | 11%         | 18%         |
| <b>Total Europe</b>        | <b>20%</b>                | <b>24%</b>  | <b>24%</b>  |
|                            | <b>100%</b>               | <b>100%</b> | <b>100%</b> |

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## 10. Business Segment Information

The Company's products are classified into two core business segments. The semiconductor and solar equipment segment designs, manufactures and markets semiconductor wafer processing and handling equipment used in the fabrication of integrated circuits, solar cells and MEMS. Also included in the semiconductor and solar equipment segment are the manufacturing support service operations and corporate expenses, except for a small portion that is allocated to the polishing supplies segment. The polishing supplies segment designs, manufactures and markets carriers, templates and equipment used in the lapping and polishing of wafer-thin materials, including silicon wafers used in the production of semiconductors.

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Information concerning our business segments is as follows:

|                                        | Years Ended September 30, |                     |            |
|----------------------------------------|---------------------------|---------------------|------------|
|                                        | 2007                      | 2006                | 2005       |
|                                        | (dollars in thousands)    |                     |            |
| Net revenue:                           |                           |                     |            |
| Semiconductor and solar equipment      | \$ 37,657                 | \$ 33,363           | \$ 20,668  |
| Polishing supplies                     | 8,327                     | 7,082               | 7,231      |
|                                        | \$ 45,984                 | \$ 40,445           | \$ 27,899  |
| Operating income (loss):               |                           |                     |            |
| Semiconductor and solar equipment      | \$ 339                    | \$ 722              | \$ (1,035) |
| Polishing supplies                     | 1,402                     | 913                 | 791        |
|                                        | 1,741                     | 1,635               | (244)      |
| Interest income (expense), net         | 336                       | (37)                | 70         |
| Income (loss) before income taxes      | \$ 2,077                  | \$ 1,598            | \$ (174)   |
| Capital expenditures:                  |                           |                     |            |
| Semiconductor and solar equipment      | \$ 3,858                  | \$ 533              | \$ 250     |
| Polishing supplies                     | 303                       | 423                 | 29         |
|                                        | \$ 4,161                  | \$ 956              | \$ 279     |
| Depreciation and amortization expense: |                           |                     |            |
| Semiconductor and solar equipment      | \$ 437                    | \$ 466              | \$ 515     |
| Polishing supplies                     | 269                       | 176                 | 160        |
|                                        | \$ 706                    | \$ 642              | \$ 675     |
|                                        |                           |                     |            |
|                                        |                           | As of September 30, |            |
|                                        | 2007                      | 2006                |            |
| Identifiable assets:                   |                           |                     |            |
| Semiconductor and solar equipment      | \$ 46,283                 | \$ 19,564           |            |
| Polishing supplies                     | 4,383                     | 3,999               |            |
|                                        | \$ 50,666                 | \$ 23,563           |            |
| Goodwill:                              |                           |                     |            |
| Semiconductor and solar equipment      | \$ 89                     | \$ 89               |            |
| Polishing supplies                     | 728                       | 728                 |            |
|                                        | \$ 817                    | \$ 817              |            |

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The Company has manufacturing operations in the United States and The Netherlands. Revenues, operating income (loss) and identifiable assets by geographic region are as follows:

|                 | Years Ended September 30, |           |           |
|-----------------|---------------------------|-----------|-----------|
|                 | 2007                      | 2006      | 2005      |
|                 | (dollars in thousands)    |           |           |
| Net revenue:    |                           |           |           |
| United States   | \$ 17,555                 | \$ 24,418 | \$ 16,691 |
| The Netherlands | 28,429                    | 16,027    | 11,208    |

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|                          |    |        |    |        |    |        |
|--------------------------|----|--------|----|--------|----|--------|
|                          | \$ | 45,984 | \$ | 40,445 | \$ | 27,899 |
| Operating income (loss): |    |        |    |        |    |        |
| United States            | \$ | 489    | \$ | 1,786  | \$ | (458)  |
| The Netherlands          |    | 1,252  |    | (151)  |    | 214    |
|                          | \$ | 1,741  | \$ | 1,635  | \$ | (244)  |

|                                                            | As of September 30, |          |
|------------------------------------------------------------|---------------------|----------|
|                                                            | 2007                | 2006     |
| Net Long-lived Assets (excluding intangibles and goodwill) |                     |          |
| United States                                              | \$ 1,349            | \$ 1,366 |
| The Netherlands                                            | 4,926               | 1,016    |
|                                                            | \$ 6,275            | \$ 2,382 |

## 11. Income Taxes

The components of the provision for income taxes are as follows:

|                  | Year Ended September 30, |        |         |
|------------------|--------------------------|--------|---------|
|                  | 2007                     | 2006   | 2005    |
|                  | (dollars in thousands)   |        |         |
| Current:         |                          |        |         |
| Domestic federal | \$ 760                   | \$ 411 | \$ (25) |
| Foreign          | 540                      | (245)  | □       |
| Domestic state   | 80                       | 114    | 110     |
|                  | 1,380                    | 280    | 85      |
| Deferred:        |                          |        |         |
| Domestic federal | (1,710)                  | □      | □       |
| Foreign          | □                        | □      | □       |
| Domestic state   | (10)                     | □      | □       |
|                  | (1,720)                  | □      | □       |
|                  | \$ (340)                 | \$ 280 | \$ 85   |

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A reconciliation of actual income taxes to income taxes at the expected United States federal corporate income tax rate of 34 percent is as follows:

|                                                       | Year Ended September 30, |        |         |
|-------------------------------------------------------|--------------------------|--------|---------|
|                                                       | 2007                     | 2006   | 2005    |
|                                                       | (dollars in thousands)   |        |         |
| Tax provision (benefit) at the statutory federal rate | \$ 706                   | \$ 543 | \$ (59) |
| Effect of permanent book-tax differences              | 71                       | (99)   | 30      |
| State tax provision                                   | 44                       | 75     | 44      |
| Valuation allowance for net deferred tax assets       | (1,183)                  | (222)  | 81      |
| Other items                                           | 22                       | (17)   | (11)    |
|                                                       | \$ (340)                 | \$ 280 | \$ 85   |

Deferred income taxes reflect the tax effects of temporary differences between the carrying value of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The tax effects of temporary book-tax differences that give rise to significant portions of the deferred tax asset and deferred tax liability are as follows:

|                                                          | Years Ended September 30 |         |         |
|----------------------------------------------------------|--------------------------|---------|---------|
|                                                          | 2007                     | 2006    | 2005    |
|                                                          | (dollars in thousands)   |         |         |
| Deferred tax assets - current:                           |                          |         |         |
| Capitalized inventory costs                              | \$ 320                   | \$ 205  | \$ 121  |
| Inventory write-downs                                    | 460                      | 412     | 586     |
| Deferred profit                                          | 740                      | 377     | 223     |
| Accruals and reserves not currently deductible           | 570                      | 467     | 319     |
|                                                          | 2,090                    | 1,461   | 1,249   |
| Valuation allowance                                      | (400)                    | (1,461) | (1,249) |
| Deferred tax assets - current net of valuation allowance | \$ 1,690                 | \$ □    | \$ □    |
| Deferred tax assets (liabilities) - non-current:         |                          |         |         |
| Stock options expense                                    | \$ 70                    | \$ 17   | \$ □    |
| Federal net operating losses                             | □                        | □       | 552     |
| State net operating losses                               | 180                      | 172     | 136     |
| Book vs. tax depreciation and amortization               | (170)                    | (17)    | (82)    |
|                                                          | 80                       | 172     | 606     |
| Valuation allowance                                      | (50)                     | (172)   | (606)   |
| Deferred tax assets - current net of valuation allowance | \$ 30                    | \$ □    | \$ □    |

Changes in the deferred tax valuation allowance are as follows:

|                                                 | Year Ended September 30, |          |          |
|-------------------------------------------------|--------------------------|----------|----------|
|                                                 | 2007                     | 2006     | 2005     |
|                                                 | (dollars in thousands)   |          |          |
| Balance at the beginning of the year            | \$ 1,633                 | \$ 1,855 | \$ 1,768 |
| Additions (subtractions) to valuation allowance | (1,183)                  | (222)    | 87       |
| Balance at the end of the year                  | \$ 450                   | \$ 1,633 | \$ 1,855 |

The Company has approximately \$2.6 million of Arizona state net operating loss carryforwards at September 30, 2007, which expire in varying amounts between 2008 and 2012. These net operating losses have been fully reserved.

SFAS No. 109 "Accounting for Income Taxes" requires that a valuation allowance is recognized if, based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. Each quarter the valuation allowance is re-evaluated. During fiscal 2007, continued improvement in both the Company's earnings history and its prospects for the future resulted in a \$1.2 million lower estimate of the

amount of deferred assets that more likely than not will be unrealizable. Tax payments of \$1.3 million were made during 2007. During fiscal 2007, the Company also recorded an increase of \$0.5 million in deferred tax assets for items that meet the more likely than not criteria for recognition under SFAS No. 109.

## 12. Restructuring Charge

In June 2006, Amtech adopted a plan to consolidate the manufacturing of its automation product line into facilities already used to manufacture diffusion furnaces. Amtech's automation products are often sold in conjunction with the sale of new diffusion furnaces. As a result of this decision, the company notified certain personnel of the termination date and severance and recorded a restructuring charge of \$190,000, of which \$88,000 had been paid as of September 30, 2006. These charges are presented as a separate line item on the Consolidated Statements of Operations.

## 13. Subsequent Event - Acquisition

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On October 8, 2007, the Company acquired, through its wholly-owned subsidiary, Tempres Holding B.V., 100% of the voting equity, in R2D Ingenierie, or R2D, a solar cell and semiconductor automation equipment manufacturing company, located near Montpellier, France. R2D provides solutions to the solar and semiconductor industries. The purpose of the acquisition was to expand the Company's automation products which are used in the semiconductor manufacturing and solar diffusion processes. The acquisition of the technology and business of R2D enhances the growth strategy by allowing the Company to increase sales by offering an integrated system under the Tempres brand to the solar industry.

The aggregate purchase price is based on the cash consideration paid at closing of \$5.5 million plus estimated acquisition costs of \$0.6 million, including cost of legal representation and due diligence. Cash contingent payments of \$1.6 million to be paid to sellers upon fulfillment of certain requirements have been deposited in an escrow account. The amount of future contingent payments earned will be allocated primarily to goodwill. The assets of R2D principally consist of intellectual property and technology, reseller relationships, customer contracts, trademarks, non-compete agreements, inventories and other tangible property used in connection with the acquired business. Liabilities assumed include current liabilities, loans, obligations under certain contracts, leases, purchase orders and warranty claims for certain products and services under warranty as of the date of the acquisition.

The valuation of acquired assets is preliminary and dependent upon final valuation of assets acquired, including valuation of intangible assets which was determined with the assistance of an independent third-party consultant. The fair value of intangible assets was determined by a valuation approach that estimates the future economic benefit stream of the asset. This benefit stream was then discounted to present value with an appropriate risk-adjusted discount rate.

The allocation of the purchase price to the fair value of the assets acquired and liabilities assumed at the date of acquisition is as follows (dollars in thousands):

|                             |          |
|-----------------------------|----------|
| Assets Acquired:            |          |
| Current Assets              | \$ 5,138 |
| Property, plant & equipment | 103      |
| Intangible assets           | 2,871    |
| Total assets acquired       | 8,112    |
| Liabilities Assumed         |          |
| Current Liabilities         | 1,931    |
| Long-term liabilities       | 80       |
| Total liabilities assumed   | 2,011    |
| Net assets acquired         | \$ 6,101 |

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### 14. Subsequent Event – Public Offering

In November 2007, the Company filed registration statements on Form S-1 with the Securities and Exchange Commission for the sale of 2,500,000 shares of its common stock in an underwritten public offering at a price to the public of \$14.41 per share. The Company also granted the underwriters a 30-day option to purchase up to 375,000 additional shares of common stock to cover over-allotments. Net proceeds to the Company were approximately \$33.5 million, net of approximately \$0.4 million of offering expenses and \$2.2 million of underwriting commissions, excluding the possible exercise of the over-allotments. We intend to use the net proceeds from this offering for working capital and other general corporate purposes. Pending application of these proceeds, we intend to invest the net proceeds in short-term, interest bearing investment grade securities.

### 15. Selected Quarterly Data (Unaudited)

|                   | First<br>Quarter                         | Second<br>Quarter | Third<br>Quarter | Fourth<br>Quarter |
|-------------------|------------------------------------------|-------------------|------------------|-------------------|
|                   | (in thousands, except per share amounts) |                   |                  |                   |
| Fiscal Year 2007: |                                          |                   |                  |                   |
| Revenue           | \$ 9,451                                 | \$ 10,539         | \$ 12,874        | \$ 13,120         |

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|                              |          |           |           |           |
|------------------------------|----------|-----------|-----------|-----------|
| Gross margin                 | \$ 2,392 | \$ 2,868  | \$ 3,424  | \$ 4,126  |
| Net income                   | \$ 6     | \$ 262    | \$ 1,010  | \$ 1,139  |
| Net income per share:        |          |           |           |           |
| Basic                        | \$ 0.00  | \$ 0.05   | \$ 0.16   | \$ 0.17   |
| Shares used in calculation   | 3,476    | 5,193     | 6,498     | 6,514     |
| Diluted                      | \$ 0.00  | \$ 0.05   | \$ 0.15   | \$ 0.17   |
| Shares used in calculation   | 3,511    | 5,255     | 6,575     | 6,654     |
| Fiscal Year 2006:            |          |           |           |           |
| Revenue                      | \$ 7,914 | \$ 10,892 | \$ 10,351 | \$ 11,288 |
| Gross margin                 | \$ 2,537 | \$ 2,737  | \$ 2,643  | \$ 2,658  |
| Net income (loss)            | \$ 471   | \$ 182    | \$ 168    | \$ 497    |
| Net income (loss) per share: |          |           |           |           |
| Basic                        | \$ 0.16  | \$ 0.05   | \$ 0.05   | \$ 0.14   |
| Shares used in calculation   | 2,708    | 2,881     | 3,437     | 3,475     |
| Diluted                      | \$ 0.14  | \$ 0.05   | \$ 0.05   | \$ 0.14   |
| Shares used in calculation   | 3,387    | 3,481     | 3,521     | 3,518     |

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

None.

**ITEM 9A. CONTROLS AND PROCEDURES**

Our management, including our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), has carried out an evaluation of the effectiveness of our disclosure controls and procedures as of September 30, 2007, pursuant to Exchange Act Rules 13a-15(e) and 15(d)-15(e). Based upon that evaluation, our CEO and CFO have concluded that as of such date, our disclosure controls and procedures in place were effective as of the end of the period covered by this annual report.

There have been no changes in our internal controls over financial reporting during the fourth quarter of fiscal 2007 that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

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**ITEM 9B. OTHER INFORMATION**

None.

**PART III**

Pursuant to Paragraph G(3) of the General Instructions to Form 10-K, the information required by Part III of Form 10\_K are incorporated by reference to Amtech's Definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with its 2008 Annual Meeting of Stockholders (the "Proxy Statement").

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

The information required by this item is incorporated herein by reference the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

**ITEM 11. EXECUTIVE COMPENSATION**

The information required by this item is incorporated herein by reference the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

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

The information required by this item is incorporated herein by reference the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

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

The information required by this item is incorporated herein by reference the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

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

The information required by this item is incorporated herein by reference the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

**PART IV**

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

(a) (1) The consolidated financial statements required by this item are set forth on the pages indicated at Item 8.

(2) All financial statement schedules are omitted because they are either not applicable, or because the required information is shown in the consolidated financial statements or notes thereto.

(3) Exhibits: The response to this section of Item 15 is included in the Exhibit Index of the Annual Report and is incorporated herein by reference.

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**SIGNATURES**

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

AMTECH SYSTEMS, INC.

December 12, 2007

By: /s/ Bradley C. Anderson  
Bradley C. Anderson, Vice President □  
Finance and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

| <b>SIGNATURE</b>                               | <b>TITLE</b>                                                                             | <b>DATE</b>       |
|------------------------------------------------|------------------------------------------------------------------------------------------|-------------------|
| *                                              | Chairman of the Board,                                                                   | December 12, 2007 |
| Jong S. Whang                                  | President and Chief Executive Officer<br>(Principal Executive Officer)                   |                   |
| /s/ Bradley C. Anderson<br>Bradley C. Anderson | Vice President □ Finance<br>and Chief Financial Officer<br>(Principal Financial Officer) | December 12, 2007 |

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|                         |                                                            |                   |
|-------------------------|------------------------------------------------------------|-------------------|
| *<br>Robert T. Hass     | Chief Accounting Officer<br>(Principal Accounting Officer) | December 12, 2007 |
| *<br>Michael Garnreiter | Director                                                   | December 12, 2007 |
| *<br>Robert F. King     | Director                                                   | December 12, 2007 |
| *<br>Brian L. Hoekstra  | Director                                                   | December 12, 2007 |
| *<br>Alfred W. Giese    | Director                                                   | December 12, 2007 |

\*By: /s/ Bradley C. Anderson  
Bradley C. Anderson, Attorney-In-Fact\*\*

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\*\*By authority of the power of attorney filed as Exhibit 24 hereto.

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**EXHIBIT INDEX**

| <b>Exhibit No.</b> | <b>Description</b>                                                                                                        | <b>Method of Filing</b> |
|--------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 3.1                | Articles of Incorporation                                                                                                 | A                       |
| 3.2                | Articles of Amendment to Articles of Incorporation, dated April 27, 1983                                                  | A                       |
| 3.3                | Articles of Amendment to Articles of Incorporation, dated May 19, 1987                                                    | B                       |
| 3.4                | Articles of Amendment to Articles of Incorporation, dated May 2, 1988                                                     | C                       |
| 3.5                | Articles of Amendment to Articles of Incorporation, dated May 28, 1993                                                    | D                       |
| 3.6                | Articles of Amendment to Articles of Incorporation, dated March 14, 1999                                                  | E                       |
| 3.7                | Certificate of Designations, Preferences and Privileges of the Series A Convertible Preferred Stock, dated April 21, 2005 | M                       |
| 3.8                | Amended and Restated Bylaws                                                                                               | F                       |
| 4.1                | Rights Agreement dated May 17, 1999                                                                                       | G                       |

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|       |                                                                                                                                             |   |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------|---|
| 4.2   | Form of Subscription Agreement for the Series A Convertible Preferred Stock                                                                 | M |
| 10.1  | Amended and Restated 1995 Stock Option Plan                                                                                                 | H |
| 10.2  | Non-Employee Directors Stock Option Plan                                                                                                    | I |
| 10.3  | Amendment to Non-Employee Directors Stock Option Plan effective July 8, 2005                                                                | O |
| 10.4  | Employment Agreement with Robert T. Hass, dated May 19, 1992                                                                                | J |
| 10.5  | 1998 Employee Stock Option Plan (Amended as of March 29, 2002)                                                                              | K |
| 10.6  | Asset Purchase Agreement, dated May 3, 2004, by and between Kokusai Semiconductor Equipment Corporation and the Company.                    | L |
| 10.7  | Amendment, dated June 25, 2004, to the Asset Purchase Agreement by and between Kokusai Semiconductor Equipment Corporation and the Company. | L |
| 10.8  | Amendment, dated July 1, 2004, to the Asset Purchase Agreement by and between Kokusai Semiconductor Equipment Corporation and the Company.  | L |
| 10.9  | Asset Purchase Agreement, dated May 3, 2004, by and between Kokusai Electric Europe GmbH and the Company.                                   | L |
| 10.10 | Amendment, dated June 25, 2004, to the Asset Purchase Agreement by and between Kokusai Electric Europe GmbH and the Company.                | L |
| 10.11 | Warrant to Purchase Common Stock, dated April 22, 2005                                                                                      | O |
| 10.12 | Loan and Security Agreement (Domestic), dated April 7, 2006, between Silicon Valley Bank and the Company.                                   | Q |
| 10.13 | Loan and Security Agreement (EXIM), dated April 7, 2006, between Silicon Valley Bank and the Company.                                       | Q |
| 10.14 | Export-Import Bank of the United States Working Capital Guarantee Program Borrower Agreement, dated April 7, 2006.                          | Q |
| 10.15 | Third Amendment to Lease, dated as of August 11, 2006, between Wakefield Investments, Inc. and Bruce Technologies, Inc.                     | R |
| 10.16 | 2007 Employee Stock Incentive Plan                                                                                                          | S |

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|       |                                                                                                                                                                     |   |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 10.17 | Sale Agreement, dated March 15, 2007, for purchase of manufacturing facility Located in Vassen, The Netherlands by Tempres Holdings B.V. from Mr. F. H. Van Berlo.  | T |
| 10.18 | Employment Agreement with J.S. Whang dated April 13, 2007                                                                                                           | T |
| 10.19 | Stock Purchase and Sale Agreement, by and among Tempres Holdings, B.V., R2D Ingenierie SAS and the Shareholders of R2D Ingenierie SAS, dated as of October 8, 2007. | U |
| 21    | Subsidiaries of the Registrant                                                                                                                                      | * |
| 23.1  | Consent of Independent Registered Public Accounting Firm - Mayer Hoffman McCann P.C.                                                                                | * |
| 24    | Powers of Attorney                                                                                                                                                  | * |

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|      |                                                                                                                        |   |
|------|------------------------------------------------------------------------------------------------------------------------|---|
| 31.1 | Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended                  | * |
| 31.2 | Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended                  | * |
| 32.1 | Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 | * |
| 32.2 | Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 | * |

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\* Filed herewith.

- A Incorporated by reference to Amtech's Form S-1 Registration Statement No. 2-83934-LA.
- B Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1987.
- C Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1988.
- D Incorporated by reference to Amtech's Form S-1 Registration Statement (File No. 33-77368).
- E Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1999.
- F Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1991.

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- G Incorporated by reference to Amtech's Current Report on Form 8-A, filed with the Securities and Exchange Commission on May 17, 1999.
- H Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the Amended and Restated 1995 Stock Option Plan), filed with the Securities and Exchange Commission on August 9, 1996.
- I Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the Non-Employee Director Stock Option Plan), filed with the Securities and Exchange Commission on August 9, 1996.
- J Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1993.
- K Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the 1998 Employee Stock Option Plan), filed with the Securities and Exchange Commission on February 11, 2003.
- L Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on July 15, 2004.
- M Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on April 28, 2005.
- N Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 24, 2005.
- O Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 2005.
- P Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 2006.
- Q Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on April 12, 2006.
- R Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2006.
- S Incorporated by reference to Amtech's Proxy Statement for its 2007 Annual Shareholders' Meeting, filed with the Securities and Exchange Commission on April 24, 2007.
- T Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2007.
- U Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 11, 2007.