AMTECH SYSTEMS INC
Form 424B1
February 01, 2007

Filed pursuant to Rule 424(b)(1)
Registration Nos. 333-139592 and 333-140372

Prospectus

2,625,000 Shares of Common Stock
$7.05 Per Share

We are selling 2,625,000 shares of our common stock.

Our common stock trades on the NASDAQ Global Market under the symbol ASYS. On January 31, 2007, the last sale price of our common stock as reported on the NASDAQ Global Market was $7.19 per share.

We have granted the underwriters the right to purchase up to an additional 393,750 shares of common stock solely to cover over-allotments of shares.

Investing in our common stock involves a high degree of risk.
See Risk Factors beginning on page 8.

	Per Share	Total	Total if over-allotment option is exercised
Public offering price	$ 7.05	$ 18,506,250	$ 21,282,188
Underwriting discount and commissions	$ 0.4935	$ 1,295,438	$ 1,489,753
Proceeds, to us (before expenses)	$ 6.5565	$ 17,210,812	$ 19,792,435

The underwriters expect to deliver the shares to purchasers on or about February 6, 2007.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

C. E. UNTERBERG, TOWBIN

The date of this prospectus is February 1, 2007.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents we incorporate by reference contain certain forward-looking statements that involve a number of risks and uncertainties.

Certain information contained or incorporated by reference in this prospectus and the documents we incorporate by reference contain statements that are forward-looking in nature. All statements included or incorporated by reference in this prospectus, or made by the 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 (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended). Examples of forward-looking statements include statements regarding our future financial results, operating results, business strategies, projected costs, products under development, competitive positions and plans and objectives of Amtech and our management for future operations. In some cases, forward-looking statements can be identified by terminology such as may, will, should, would, expects, plans, anticipates, intends, believes, estimates, predicts, potential, continue, terms or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including the Risk Factors discussed herein. These and many other factors could affect our 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 us or on our behalf. All references to we, our, us, or Amtech refer to Amtech Systems, Inc. and its subsidiaries.

We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, after the date of this prospectus to conform them to actual results. All of the forward-looking statements are qualified in their entirety by reference to the factors discussed under the caption Risk Factors.

We caution the reader that these risk factors may not be exhaustive. We operate in a continually changing business environment and new risk factors emerge from time to time. Management cannot predict such new risk factors, nor can it assess the impact, if any, of such new risk factors on our businesses or the extent to which any factor or combination of factors may cause actual results to differ materially from those projected in any forward-looking statements. In light of these risks, uncertainties and assumptions, the forward-looking events discussed in this prospectus and the documents we incorporate by reference might not occur.

For these statements, we claim the protection of the safe harbor for forward-looking statements contained in Section 21E of the Securities Act.

You should carefully read this prospectus and the documents incorporated by reference in their entirety. They contain information that you should consider when making your investment decision.

This prospectus contains market and other data that we obtained from industry sources. These sources do not guarantee the accuracy or completeness of their information. Although we believe that these sources are reliable, we have not independently verified the information.

PROSPECTUS SUMMARY

This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should read the entire prospectus, including the risks of investing discussed under Risk Factors beginning on page 8 and the following summary together with the more detailed information regarding our company, the shares, our financial statements and the notes to those statements and the other documents incorporated by reference to this prospectus and the exhibits to the registration statement of which this prospectus is a part.

References in this prospectus to Amtech, the Company, we, us, and our, refer to Amtech Systems, Inc. and its subsidiaries, unless otherwise specified.

OUR COMPANY

We are a leading supplier of horizontal diffusion furnace systems used for semiconductor and solar (photovoltaic) cell manufacturing and recognized in the markets that we serve for our technology and our brands. We operate in two business segments: semiconductor equipment and polishing supplies. Our semiconductor equipment is sold under the well-known and respected brand names of Tempress Systems and Bruce Technologies. Our semiconductor segment has customers in both the semiconductor industry and the solar industry. Within the semiconductor industry, we serve a market focused on manufacturers of analog, power, automotive and microcontroller chips with geometries greater than 0.3 microns, denoted as µ, which 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 P.R. Hoffman brand, we believe we are also a leading supplier of insert carriers to manufacturers of silicon wafers, and 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 technology and industry presence in an effort to expand our penetration into 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.

Driven by internal and external growth, our net revenue increased 45% year over year in both fiscal 2005 and 2006 to $27.9 million and $40.4 million, respectively. During the fourth quarter of fiscal 2004, we acquired the Bruce Technologies horizontal furnace product line, significantly contributing to the increase in net revenue for fiscal 2005. During fiscal 2006, net revenue increased primarily because of higher capital investment by our semiconductor customers driven by the growth in worldwide demand for electronic products and integrated circuits, as well as the increased demand for solar industry products. Our fiscal 2006 net revenue included a multi-furnace order of approximately $5.2 million from one customer. While we expect follow-on orders from this customer, we do not anticipate receiving an order of this magnitude in fiscal 2007 and, therefore, expect our sales to the semiconductor industry over the near term to be flat or slightly decrease.

We expect, however, our sales to solar cell manufacturers to increase in fiscal 2007. As of September 30, 2006, our backlog from solar industry orders, which we expect to ship in fiscal 2007, was $7.6 million generated from $8.0 million in orders in fiscal 2006. Orders generated in fiscal 2005 were $3.8 million. 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 profit from completing these orders. Net Revenue from solar industry sales were $2.8 million and $1.4 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, increased global demand for electricity, solar industry efforts to reduce manufacturing costs and concern over the United States dependence on foreign oil. We plan to continue capitalizing on this trend by improving our existing products and processes for the solar industry, by increasing our solar sales and marketing activities and by acquiring or developing additional products for that industry.

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 P.R. Hoffman brands have long been recognized in our industry and identified with high-quality products, innovative solutions and dependable service. We believe that we are a leading supplier with respect to the markets that we serve. Additionally, we believe that our brand recognition and experience will allow us to capitalize on the market opportunities that exist in the solar industry and realize greater demand for our products than most of our competitors.

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 the largest installed customer base in the semiconductor industry, which leads 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. We also have an extensive retrofit, parts and service business, which typically generates higher margins than our equipment business.

Experienced Management Team. We are led by a highly experienced management team. Our CEO has over 33 years of industry experience, including 25 years with our company. Our three general managers have an average of over 19 years of semiconductor industry experience and an average of 17 years with our company (including 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 semiconductor and wafer manufacturing companies, as well as solar cell manufacturers. 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. In fiscal 2004, our largest customer accounted for approximately 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 a successful acquisition program and have completed the acquisition and integration of three significant businesses. 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. In July 1997, we acquired substantially all of the assets of P.R. Hoffman. This acquisition enabled us to offer new 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 July 2004, we acquired the Bruce Technologies line of semiconductor horizontal furnace operations, product lines and other assets from Kokusai Semiconductor Equipment Corporation (Kokusai), a wholly owned subsidiary of Hitachi, and its affiliate, Kokusai Electric Europe, GmbH. Each of the above acquisitions has contributed to our growth in net revenue and profitability.

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, 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 semiconductor and solar cell manufacturing customers.

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 superior systems.

We believe our line of horizontal diffusion furnaces, which allow high wafer-per-hour throughput, is more technologically advanced than most of our competitors equipment. The design of our furnace allows high wafer-per-hour throughput and increases reliability. In addition, the processing and temperature control systems within the furnace provide diverse proven process capabilities, enabling the application of high-quality films onto silicon wafers.

We recently 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 fiscal 2006. We anticipate that this system will have much of the same process capability as other vertical furnaces in the marketplace, but with a lower cost than that of our competitors. In addition, in 2006, we internally developed a machine to produce precision thickness wafer carriers, which we intend to sell as a premium product and which we expect will increase our sales to the 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 maximize our access to potential customers relative to our competitors with geographically concentrated operations. The geographic distribution of our net revenues from fiscal 2004 through 2006 were as follows:

	2006	2005	2004
Asia	41%	36%	33%
North America	35%	40%	36%
Europe	24%	24%	31%

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: expanding 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.

Expanding on Growth Opportunities in the Solar Industry. We have had recent success in increasing our sales to the solar industry, which resulted in $10 million in solar orders between September 1, 2005 and September 30, 2006. The increase in orders from solar cell manufacturers is due to our focused product development and marketing efforts, as well as to growth in the solar industry. We believe the growth in the solar industry is primarily attributable to: greater interest in environmentally friendly energy alternatives; increased costs of fossil fuels; increased global demand for electricity; solar industry efforts to reduce manufacturing costs; and global concern over dependence on politically unstable countries for oil.

Global demand for electricity is expected to increase from 14.8 trillion kilowatt hours in 2003 to 27.1 trillion kilowatt hours in 2025, according to the U.S. Department of Energy. However, the ability of conventional sources of electricity to meet the rapidly expanding global demand could be limited by supply constraints, rising prices, dependence on politically volatile countries for oil and environmental concerns. Worldwide, annual installations by the photovoltaic industry grew from 0.3 gigawatts of power, or GW, in 2001 to 1.5GW in 2005, representing a compound average annual growth rate, or CAGR, of 50%. Looking forward, according to *Photon International*, total solar cell production is expected to increase from 1,700 megawatts of power, or MWp, in 2005 to 10,400 MWp in 2010 for a CAGR of 44%**.** We believe this growth will drive significant demand for our products in the future.

Expanding on Growth Opportunities in the Asia-Pacific Market. With our extensive global knowledge and experience, we intend to further leverage our established sales channels in the Asia-Pacific market. Asia continues to be an important and expanding market for us, particularly because of the continued migration of semiconductor and solar cell 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%. Our sales into Asia increased over 60% in fiscal 2006 compared to fiscal 2005 and we expect continued growth in this market.

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 anticipate that this system will have much of the same process capability as other vertical furnaces in the marketplace, but with a lower cost than most of our competitors. 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 these 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. In 2006, we developed a machine to produce precision thickness wafer carriers, which we expect will increase our share of the carrier market.

Enhancing our Sales and Marketing Capabilities. 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 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 to leverage 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 a customer s relocation to or expansion 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 a successful acquisition program and have completed the acquisition and integration of three significant businesses.

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.

In 1997, we acquired substantially all of the assets of P.R. Hoffman Machine Products Corporation. 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.

During the period between 1999 and 2003, we evaluated and negotiated numerous acquisition opportunities that we ultimately declined to consummate because of what we believed to be inflated market prices.

In 2004, we acquired certain semiconductor horizontal diffusion furnace operations, product lines and other assets from Kokusai, a wholly owned subsidiary of Hitachi, 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.

Each of the above acquisitions has contributed to our growth in net revenue and profitability. Based on a disciplined acquisition strategy, we continue to evaluate potential technology, product and business acquisitions or joint ventures that will 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 production efficiency and growing our customer base.

THE OFFERING

Common Stock Offered by the Company	3,018,750 shares [(1)]
Common Stock Outstanding after this Offering	6,494,792 shares [(1) (2)]
Use of Proceeds	We intend to use the net proceeds from this offering for working capital and other general corporate purposes, including for possible future product or business acquisitions in connection with the planned expansion of our solar and semiconductor businesses. See Use of Proceeds , beginning on page 17.
Risk Factors	You should carefully consider all of the information contained in, and incorporated by reference into, this prospectus, and in particular, you should evaluate the specific risks set forth under Risk Factors , beginning on page 8.

NASDAQ Global Market Symbol ASYS

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(1) The number of shares assumes that the underwriters will exercise the over-allotment option granted to them by us.

(2) The number of shares outstanding does not include, as of January 29, 2007, 378,384 shares of common stock reserved for issuance upon exercise of options outstanding under our stock options plans.

CORPORATE INFORMATION

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 three wholly-owned subsidiaries: Tempress Systems, Inc., a Texas corporation with all of its operations in The Netherlands (Tempress Systems or Tempress), acquired in 1994; P.R. Hoffman Machine Products, Inc., an Arizona corporation based in Carlisle, Pennsylvania (P.R. Hoffman), acquired in July 1997; and Bruce Technologies, Inc., a Massachusetts corporation based in Billerica, Massachusetts (Bruce Technologies), acquired in July 2004.

Our principal executive offices are located at 131 South Clark Drive, Tempe, Arizona, 85281, and our telephone number is (480) 967-5146. Our website is located at www.amtechsytems.com. The information contained in, or that can be accessed through, our website is not part of this prospectus.

Amtech, Tempress and Atmoscan are our federally registered trademarks. Other trademarks used in this prospectus are the property of their respective owners.

SUMMARY CONSOLIDATED FINANCIAL DATA

We derived the consolidated operating data for the years ended September 30, 2004, 2005 and 2006 and the consolidated balance sheet data as of September 30, 2005 and 2006 from our audited consolidated financial statements incorporated by reference in this prospectus. We derived the consolidated balance sheet data as of September 30, 2004 from our audited consolidated financial statements not incorporated by reference in this prospectus.

The following selected financial data should be read in conjunction with the section of this prospectus entitled Management s Discussion and Analysis of Financial Condition and Results of Operations, and our consolidated financial statements (including the related notes thereto) incorporated by reference in this prospectus.

	Years Ended September 30,		
	2004(1)	2005	2006
	(In thousands, except percentages and per share amounts)		
Operating Data:			
Net revenues	$ 19,299	27,899	$ 40,445
Gross profit	$ 3,949	7,668	10,575
Gross profit %	20.5%	27.5%	26.1%
Operating income (loss)	$ (2,035)	(244)	1,635
Net income (loss)	$ (3,165)	(259)	1,318
Dividends on convertible preferred stock	$	(76)	(81)
Net income (loss) attributable to common	$ (3,165)	(335)	1,237
Earnings (loss) per share:			
Basic earnings (loss) per share	$ (1.17)	(0.12)	0.40
Diluted earnings (loss) per share	$ (1.17)	(0.12)	0.38

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(1) On July 1, 2004, the Company acquired the Bruce Technologies horizontal furnace product line from Kokusai.

The following table contains a summary of our balance sheet at period end for the three fiscal years ended September 30, 2006, and as adjusted for the offering.

	September 30,		September 30, 2006	
	2004[1]	2005	Actual	As Adjusted[2]
	(Dollars in thousands)			
Balance Sheet Data:				
Cash and cash equivalents	$ 1,674	$ 3,309	$ 6,433	$ 25,725
Working capital	$ 7,735	$ 9,968	$ 11,883	$ 31,175
Current ratio	2.7:1	3.7:1	2.6:1	5.2:1
Total assets	$ 16,660	$ 17,701	$ 23,563	$ 42,855
Total current liabilities	$ 4,531	$ 3,752	$ 7,337	$ 7,337
Long-term obligations	$ 474	$ 741	$ 617	$ 617
Convertible preferred stock	$	$ 1,935	$	$
Total stockholders equity	$ 11,655	$ 13,208	$ 15,609	$ 34,901

(1) On July 1, 2004, the Company acquired the Bruce Technologies horizontal furnace product line from Kokusai.

(2) The As Adjusted balance sheet data gives effect to the receipt of net proceeds of approximately $19.3 million from the sale of 3,018,750 shares of common stock offered by us at the public offering price of $7.05 (and assumes that the underwriters will exercise the full over-allotment option granted to them by us), after deducting the underwriting discount and estimated offering expenses payable by us.

RISK FACTORS

Before you invest in the securities offered pursuant to this prospectus, you should be aware that there are various related investment risks, including those described below. You should consider carefully these risk factors together with all of the other information included in this prospectus, and the exhibits to this prospectus.

If any of the following risks actually occur, our business, financial condition, results of operations or prospects could be materially and adversely affected. In such case, the trading price of our common stock could decline and you could lose part or all of your investment.

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 adversely affected.

The revenue of our semiconductor equipment segment, which accounts for approximately 82% of our consolidated net revenue, 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 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.

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, 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.

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 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 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 two key customers. Our relationship with one of these 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. 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.

Amtech is 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. We presently employ 3 engineers at our Tempe, Arizona location, including one with a Ph.D. We employ 10 engineers at our Billerica, Massachusetts plant. We employ 22 engineers, including two with Ph.D. s, at our operations in The Netherlands. These employees design and support the new small batch vertical furnace, horizontal diffusion furnace and conveyor furnace product lines manufactured in The Netherlands and the related automation products manufactured in Massachusetts. Two engineers are employed at our Carlisle, Pennsylvania operation. They design wafer lapping machines and carriers to meet customers processing requirements. 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 involve numerous risks, including, but not limited to:

difficulties and increased costs in connection with integration of the 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 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, or accuse us of infringing upon their proprietary rights, 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.

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. Based on industry practice and prior experience, we believe that licenses or other rights, if necessary, will be available on commercially reasonable terms for existing or future claims. Nevertheless, 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. Defending our intellectual property rights through litigation could be very costly. If we are not able to negotiate the necessary licenses on commercially reasonable terms or successfully defend our position, our financial position and results of operations could be materially and adversely affected.

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

As of September 30, 2006, receivables from three customers comprised 19%, 13% and 12% of our 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 is unable to 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 cancel or fail 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 $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 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 fiscal 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 a profit from those orders or indicate in which period net revenue will be recognized.

Our business might be adversely affected by our dependence on foreign business.

During fiscal 2006, 65% 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) 41% (includes 13% to Malaysia); and

Europe 24% (includes 14% to Germany).

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 losses of $0.1 million in fiscal 2006, gains of $0.1 million in 2005 and losses of $0.1 million during 2004, as a result of foreign currency transactions. 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 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, Tempress 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. 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 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 automation equipment used in the solar industry, machined parts, steel frames and metal panels and other components used particularly in the assembly of semiconductor production equipment.

Although we make 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, which 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, operating results and the market value of our common stock. We have sought, and will continue to seek, to minimize the risk of production and service interruptions and shortages of key parts by:

selecting and qualifying alternative suppliers for key parts;

monitoring the financial stability of key suppliers; and

maintaining appropriate inventories of key parts.

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.

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, together with the proceeds of this offering, will provide adequate working capital for at least the next twelve months. However, 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.

Cost of compliance with Section 404 of the Sarbanes Oxley Act could adversely affect future operating results, the trading price of our common stock and failure to comply could result in loss of our listing on NASDAQ, civil penalties and other liabilities.

Section 404 of the Sarbanes Oxley Act requires management to certify that it has tested and found the Company s internal controls to be effective. It is also required that the Company s independent auditors attest that such management representations are reasonably founded. The adequacy of internal controls generally takes into consideration that the anticipated benefits of a control should outweigh the cost of that control. Auditing standards related to the internal control requirements of Section 404 of the Sarbanes Oxley Act will significantly increase the cost and time needed to comply with the requirements of Section 404. Based upon the existing deadlines, we must fully comply with all requirements of Section 404, no later than September 30, 2008. Complying with these requirements may have a material impact on our operating results. Failure to comply could result in civil penalties, loss of our listing on NASDAQ, and the cost of possible litigation. Because of the complexities and limited time available, there can be no assurance of meeting the compliance deadline.

We are not currently in compliance with the Nasdaq Global Market s audit committee composition requirements.

NASDAQ rules require that our audit committee have a minimum of three members and be comprised only of independent directors. We currently have an audit committee of comprised of two independent board members and are relying on an exception which provides that since we fail to comply with the audit committee composition requirements due to one vacancy on our audit committee, we will have until the earlier of the next annual shareholders meeting or one year from the occurrence of the event that caused the failure to comply with this requirement. We intend to add a new member to our board and our audit committee at our next annual shareholders meeting. If we fail to regain compliance with the applicable NASDAQ rules in a timely manner, we could face delisting.

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.

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. In addition, on December 26, 2006 one of our large shareholders filed a letter with the SEC on Schedule 13D requesting that we withdraw this Offering.

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. Negative developments in lawsuits could cause our stock price to decline as well. 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 adversely affect 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.

Risks Related To The Securities Offered Pursuant to this Prospectus.

Our common stock is thinly traded and you may not be able to sell the securities at all or when you want to do so.

Our common stock currently is quoted on the NASDAQ Global Market and currently is thinly traded. Over the three years ended September 30, 2006, the weekly trading volume for our common stock was as low as 7,900 shares per week and as high as 1,384,973 shares per week as reported by NASDAQ. Our average daily trading volume was 11,263 for the quarter ended September 30, 2006 as reported by NASDAQ. Because of the limited public market for our common stock, you may be unable to sell our common stock when you want to do so if the trading market for our common stock continues to be limited.

Our current capital structure could delay, defer or prevent a change of control.

We are authorized to issue up to 100,000,000 shares of common stock and up to 100,000,000 shares of preferred stock. As of January 29, 2007, there were 3,476,042 shares of common stock outstanding. Authorized but unissued common stock may be issued for such consideration as the board of directors determines to be adequate. The board of directors may issue preferred stock with such rights, preferences, privileges and restrictions as they determine, without shareholder vote. Although we do not currently intend to issue any additional shares of our preferred stock, there can be no assurance that we will not do so in the future. Shareholders may or may not be given the opportunity to vote thereon, depending upon the nature and size of any such transactions, applicable law, the rules and policies of the national securities exchange on which the common stock or preferred stock, as the case may be, is then trading, if any, and the judgment of the board of directors. Shareholders have no preemptive rights to subscribe for newly issued shares of our capital stock.

On May 17, 1999, we declared a dividend distribution of one preferred share purchase right for each outstanding share of common stock. The dividend was payable on June 9, 1999 to shareholders of record as of the close of business on that date. Each right entitles the registered holder to purchase one one-hundredth of a share of Series A Participating Preferred Stock, subject to adjustment, at a price of $8.50 per one one-hundredth of a share of Preferred Stock, subject to adjustment. The rights issuance was adopted as protection against a takeover by a third party.

Mr. Whang has a severance arrangement that requires us to pay three times his annual base salary and certain other key employees have severance arrangements that require us to pay one times annual base salary and acceleration of the vesting of their stock options in the event they are terminated following a change of control in ownership.

Having the outstanding rights, and a substantial number of authorized and unreserved shares of common stock, preferred stock and severance arrangements with key employees could have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock. Management could use the additional shares to resist a takeover effort even if the terms of the takeover offer are favored by a majority of the independent shareholders. This could delay, defer or prevent a change in control.

Shares eligible for future sale may cause the market price of our common stock to drop significantly, even if our business is doing well.

The market price of our common stock could decline as a result of sales of a large number of shares of our common stock in the market after this offering or the perception that these sales could occur. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

After the consummation of this offering, there will be 6,101,042 shares of our common stock (6,494,792 shares if the underwriters exercise their over-allotment option in full) outstanding. The 2,625,000 shares of common stock sold in this offering (3,018,750 shares if the underwriters exercise their over-allotment option in full) will be freely tradeable without restriction or further registration under the Securities Act of 1933, as amended, by persons other than our affiliates within the meaning of Rule 144 under the Securities Act.

If our securities become ineligible for trading on the NASDAQ system, they might be subject to Rule 15g-9 of the Securities Exchange Act of 1934, which imposes additional sales practice requirements on broker-dealers who sell such securities to persons other than established customers and accredited investors.

While our common stock is now included on the NASDAQ Global Market, continued listing on NASDAQ will depend on our ability to meet certain eligibility requirements established from time to time by the NASDAQ Global Market. Loss of NASDAQ eligibility could result from material operating losses, or if the market price of our common stock falls below $1.00 per share. For transactions covered by the rule, the broker-dealer must make a special suitability determination for the purchaser and receive the purchaser s written consent to the transaction prior to the sale. The rule may adversely affect the ability of broker-dealers to sell our securities, and consequently may limit the public market for, and the trading price of, our common stock.

Our stock price is volatile and you might not be able to resell your securities at or above the price you have paid.

You might not be able to sell the shares of our common stock at or above the price you have paid. The market price of our common stock might fluctuate significantly in response to many factors, some of which are beyond our control, including the following:

- actual or anticipated fluctuations in our annual and quarterly results of operations;
- changes in securities analysts expectations;
- variations in our operating results, which could cause us to fail to meet analysts or investors expectations;
- announcements by our competitors or us of significant technical innovations, contracts, acquisitions, strategic partnerships, joint ventures or capital commitments;
- conditions and trends in the semiconductor equipment industry;
- general market, economic, industry and political conditions;
- changes in market values of comparable companies;
- additions or departures of key personnel;
- stock market price and volume fluctuations attributable to inconsistent trading volume levels; and
- future sales of equity or debt securities, including sales which dilute existing investors.

In addition, the stock market has experienced extreme volatility that often has been unrelated to the performance of its listed companies. Moreover, only a limited number of our shares are traded each day, which could increase the volatility of the price of our stock. These market

fluctuations might cause our stock price to fall regardless of our performance. In the past, companies that have experienced volatility in the market price of their stock have been the objects of securities class action litigation. If we were involved in securities class action litigation, it could result in substantial costs and a diversion of our attention and resources and have a material adverse effect on our business.

USE OF PROCEEDS

We estimate that we will receive net proceeds from our offering of our common stock, after deducting underwriting discounts and commissions and other estimated offering expenses payable by us, of approximately $16,710,000, or approximately $19,292,000 if the underwriters exercise their over-allotment option in full, in each case assuming the shares are offered at $7.05 per share. We intend to use the net proceeds for working capital and general corporate purposes, including, but not limited to, possible future product or business acquisitions in connection with the planned expansion of our solar and semiconductor businesses.

DIVIDEND POLICY

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.

SELECTED CONSOLIDATED FINANCIAL DATA

We derived the consolidated operating data for the years ended September 30, 2004, 2005 and 2006 and the consolidated balance sheet data as of September 30, 2005 and 2006 from our audited consolidated financial statements incorporated by reference in this prospectus. We derived the consolidated operating data for the fiscal years ended September 30, 2002 and 2003 and the consolidated balance sheet data as of September 30, 2002, 2003 and 2004 from our audited consolidated financial statements not incorporated by reference in this prospectus.

The following selected financial data should be read in conjunction with the section of this prospectus entitled Management s Discussion and Analysis of Financial Condition and Results of Operations, and our consolidated financial statements (including the related notes thereto) incorporated by reference in this prospectus.

	Years Ended September 30,				
	2002	2003	2004[1]	2005	2006
	(In thousands, except percentages and per share amounts)				
Operating Data:					
Net revenues	$ 20,533	$ 19,434	$ 19,299	$ 27,899	$ 40,445
Gross profit	$ 4,997	$ 4,835	$ 3,949	$ 7,668	$ 10,575
Gross profit %	24.3%	24.9%	20.5%	27.5%	26.1%
Operating income (loss)	$ 77	$ (245)	$ (2,035)	$ (244)	$ 1,635
Net income (loss)	$ 118	$ (100)	$ (3,165)	$ (259)	$ 1,318
Dividends on convertible preferred stock	$	$	$	$ (76)	$ (81)
Net income (loss) attributable to common	$ 118	$ (100)	$ (3,165)	$ (335)	$ 1,237
Earnings (loss) per share:					
Basic earnings (loss) per share	$ 0.04	$ (0.04)	$ (1.17)	$ (0.12)	$ 0.40
Diluted earnings (loss) per share	$ 0.04	$ (0.04)	$ (1.17)	$ (0.12)	$ 0.38
Balance Sheet Data:					
Cash and cash equivalents	$ 8,046	$ 7,453	$ 1,674	$ 3,309	$ 6,433
Working capital	$ 12,166	$ 12,727	$ 7,735	$ 9,968	$ 11,883
Current ratio	5.5:1	4.9:1	2.7:1	3.7:1	2.6:1
Total assets	$ 17,393	$ 18,399	$ 16,660	$ 17,701	$ 23,563

Total current liabilities	$ 2,722	$ 3,259	$ 4,531	$ 3,752	$ 7,337
Long-term obligations	$ 459	$ 640	$ 474	$ 741	$ 617
Convertible preferred stock	$	$	$	$ 1,935	$
Total stockholders equity	$ 14,212	$ 14,499	$ 11,655	$ 13,208	$ 15,609

(1) On July 1, 2004, the Company acquired the Bruce Technologies horizontal furnace product line from Kokusai.

QUARTERLY CONSOLIDATED FINANCIAL DATA

The following table presents unaudited quarterly financial information for each of the twelve quarters ended September 30, 2006. In the opinion of management, this information contains all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation thereof. The operating results are not necessarily indicative of results for any future periods. Quarter-to-quarter comparisons should not be relied upon as indicators of future performance. Our operating results are subject to quarterly fluctuations as a result of a number of factors. See Risk Factors Risk Related to our Business and Industry.

	For the Quarter Ended											
	2004				2005				2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	(Unaudited) (dollars in thousands, except per share amounts)											
Operating Data:												
Net revenues	$ 3,921	$ 5,631	$ 4,835	$ 4,912	$ 7,172	$ 8,915	$ 5,507	$ 6,305	$ 7,914	$ 10,892	$ 10,351	$ 11,288
Gross profit	$ 1,189	$ 1,588	$ 1,100	$ 72	$ 2,134	$ 2,507	$ 1,732	$ 1,295	$ 2,537	$ 2,737	$ 2,643	$ 2,658
Gross profit %	30.3%	28.2%	22.8%	1.5%	29.8%	28.1%	31.5%	20.5%	32.1%	25.1%	25.5%	23.5%
Operating income (loss)	$ 34	$ 148	$ (356)	$ (1,861)	$ 97	$ 459	$ 78	$ (878)	$ 478	$ 427	$ 201	$ 529
Net income (loss)	$ 2	$ 98	$ (250)	$ (3,015)	$ 68	$ 503	$ 132	$ (962)	$ 471	$ 182	$ 168	$ 497
Dividends on convertible preferred stock	$	$	$	$	$	$	$ 33	$ 43	$ 44	$ 37	$	$
Net income (loss) attributable to common	$ 2	$ 98	$ (250)	$ (3,015)	$ 68	$ 503	$ 99	$ (1,005)	$ 427	$ 182	$ 168	$ 497
Earnings (loss) per share:												
Basic earnings (loss) per share	$	$ 0.04	$ (0.09)	$ (1.11)	$ 0.03	$ 0.19	$ 0.04	$ (0.37)	$ 0.16	$ 0.05	$ 0.05	$ 0.14
Diluted earnings (loss) per share	$	$ 0.03	$ (0.09)	$ (1.11)	$ 0.02	$ 0.18	$ 0.04	$ (0.37)	$ 0.14	$ 0.05	$ 0.05	$ 0.14

MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATION

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 incorporated by reference into this prospectus. 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 prospectus.

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 equipment and polishing supplies. Our semiconductor 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 manufacturers 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.

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,		
	2006	2005	2004
Net revenues	100.0%	100.0%	100.0%
Cost of sales	73.9%	72.5%	79.5%
Gross margin	26.1%	27.5%	20.5%
Selling, general and administrative	20.5%	26.2%	28.3%
Restucturing charge	0.5%		
Research and development	1.1%	2.2%	2.8%
Operating income (loss)	4.0%	(0.9)%	(10.6)%
Interest and other income (expense), net		0.3%	(0.3)%
Income (loss) before income taxes	4.0%	(0.6)%	(10.9)%
Income tax provision	0.7%	0.3%	5.5%

Net income (loss)	3.3%	(0.9)%	(16.4)%

Fiscal 2006 compared to Fiscal 2005

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.

	Years Ended September 30,			
Net Revenue	**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 primarily due to 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, shipments and net revenue for each quarter of fiscal 2006 and 2005, on a consolidated basis, as well as for each of our two business segments.

	Fiscal Quarter						
	First	**Second**	**Third**	**Fourth[2]**	**Fiscal Year[2]**	**Semi-conductor Equipment Segment [2]**	**Polishing Supplies Segment**
	(dollars in thousands)						
2006:							
New orders [1]	$ 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 ratio	**1.3:1**	**0.6:1**	**1.0:1**	**1.1:1**	**1.0:1**	**1.0:1**	**1.0:1**
2005							
New orders [1]	$ 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	$ 20,668	$ 7,231

Ending backlog	$ 8,451	$ 4,615	$ 6,260	$ 14,388	$ 14,388	$ 13,400	$ 988
Book-to-bill ratio	**1.2:1**	**0.6:1**	**1.3:1**	**2.1:1**	**1.2:1**	**1.3:1**	**1.0:1**

(1) Orders are net of cancellations and include the change in the U. S. dollar value of orders recorded in Euros by our semiconductor 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

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 factory and field support to customers for warranty, as well as installation and paid service calls. In addition, the cost of outsourcing the assembly or manufacturing of certain systems and subsystems to third parties and supplemental contract field service is included in cost of goods sold. Gross margin is gross profit as a percentage of net revenue.

	Years Ended September 30,			
Gross Profit	**2006**	**2005**	**Increase (Decrease)**	**%**
	(dollars in thousands)			
Semiconductor Equipment Segment	$ 8,461	$ 5,509	$ 2,952	54%
Polishing Supplies Segment	2,114	2,159	(45)	(2)%
Total	$ 10,575	$ 7,668	$ 2,907	38%
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 an increase in profit deferred in fiscal 2006 compared to 2005, the 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 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

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.

	Years Ended September 30,			
Selling, general and administrative	**2006**	**2005**	**Increase (Decrease)**	**%**
	(dollars in thousands)			
Semiconductor Equipment Segment	$ 7,111	$ 5,918	$ 1,193	20%
Polishing Supplies Segment	1,202	1,367	(165)	(12)%
Total	$ 8,313	$ 7,285	$ 1,028	14%

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 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, increased commissions of approximately $0.2 million resulting from the increased revenue, $0.2 million in increased non-cash stock-based compensation costs during fiscal 2006 related to the adoption of SFAS 123(R) and 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

	Years Ended September 30,			
Restructuring Charge	**2006**	**2005**	**Increase (Decrease)**	**%**
	(dollars in thousands)			
Semiconductor Equipment Segment	$ 190	$	$ 190	0%
Polishing Supplies Segment				0%
Total	$ 190	$	$ 190	0%

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.

Research and Development

Research and development expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products; materials and supplies used in product prototyping, including wafers, chemicals and process gases; depreciation and amortization expense; charges for repairs to research equipment; and costs of outside services for facilities, process engineering support and wafer analytical services. We also include in research and development expenses the amortization of costs associated with the preparation and filing of patents and other intellectual property. Reimbursements of these 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.

	Years Ended September 30,			
Research and Development	**2006**	**2005**	**Increase (Decrease)**	**%**
	(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 from fiscal 2006 compared to the prior year.

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 increase or decrease, we record an additional tax provision or recognize a benefit, respectively, so that the valuation allowance remains 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%. 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 2005 compared to 2004

Net Revenue

The following table reflects the increase in net revenue during fiscal 2005 as compared to 2004:

	Years Ended September 30,			
	2005	2004	Inc (Dec)	%
	(dollars in thousands)			
Semiconductor Equipment Segment	$ 20,668	13,215	$ 7,453	56%
Polishing Supplies Segment	7,231	6,084	1,147	19%
Net revenues	$ 27,899	$ 19,299	$ 8,600	45%

Net revenue from Bruce Technologies products and services, acquired July 1, 2004, accounted for $5.3 million, or 71%, of the increase in net revenue of the semiconductor equipment segment during fiscal 2005, compared to 2004. The $1.1 million increase in the polishing supply segment was primarily due to increased penetration into foreign markets with insert carriers for polishing semiconductor wafers.

There were significant fluctuations in quarterly new orders, shipments and revenue, both within and across years as a result of cyclical industry conditions. The following table reflects trends in consolidated new orders, shipments and net revenue for each quarter during fiscal 2005, and the backlog as of the end of those periods. This table also includes these amounts for the full year in total and for each or our two business segments:

	Fiscal Quarter						
	First	Second	Third	Fourth[3]	Fiscal Year[3]	Semi-conductor Equipment Segment [3]	Polishing Supplies Segment
	(dollars in thousands)						
2005[1]							
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	$ 20,668	$ 7,231
Ending backlog	$ 8,451	$ 4,615	$ 6,260	$ 14,388	$ 14,388	$ 13,400	$ 988
Book-to-bill ratio	**1.2:1**	**0.6:1**	**1.3:1**	**2.1:1**	**1.2:1**	**1.3:1**	**1.0:1**
2004 [1]							
New orders [2]	$ 3,684	$ 4,038	$ 4,129	$ 7,103	$ 18,954	$ 12,927	$ 6,027
Shipments	$ 3,744	$ 5,697	$ 5,232	$ 5,136	$ 19,809	$ 13,725	$ 6,084
Net revenues	$ 3,921	$ 5,631	$ 4,835	$ 4,912	$ 19,299	$ 13,215	$ 6,084
Ending backlog	$ 7,408	$ 5,815	$ 5,109	$ 7,300	$ 7,300	$ 6,185	$ 1,115
Book-to-bill ratio	**1.0:1**	**0.7:1**	**0.8:1**	**1.4:1**	**1.0:1**	**0.9:1**	**1.0:1**

(1) Amounts include the Bruce Technologies horizontal furnace product line of Kokusai (acquired July 1, 2004) for the periods subsequent to the acquisition.

(2) Orders are net of cancellations and include the change in the U. S. dollar value of orders recorded in Euros by our semiconductor equipment segment.
(3) The backlog as of September 30, 2005, includes $1.0 million of deferred revenue for which there is an equal amount of deferred costs, i.e. with no gross profit to be realized.

Net new orders in fiscal 2005 increased to $35.0 million, compared to $19.0 million in 2004. Bruce Technologies product lines acquired July 1, 2004 contributed $5.2 million to the increase. Most of the increase in new orders occurred in the fourth quarter of fiscal 2005, during which $14.4 million of new orders were booked.

Gross Profit

Our gross profit was $7.7 million in fiscal 2005, an increase of 94% compared to fiscal 2004. The semiconductor equipment segment contributed $3.0 million of the increase. The increase in both segments was driven primarily by the increased revenue discussed above. However, improved profitability of those sales, as measured by the margins as a percent of net revenue, also contributed to the increase in gross profit. Gross margin for fiscal 2005, as a percent of net revenue increased in the polishing segment, to 30% from 23% in 2004, and in the semiconductor equipment segment, to 27% from 19% in 2004, and on a consolidated basis, to 27%, from 20% in 2004. Performing the laser-cutting operation in-house, rather than incurring the higher cost of subcontracting the work to others, was the primary cause for the increase in the margin percentage in the polishing segment.

Approximately $0.9 million of the improvement in the fiscal 2005 gross margin resulted from the recognition in 2005 of profit deferred by the semiconductor equipment segment in prior years pursuant to our revenue recognition policy. The small increase in the amount of revenue deferred during fiscal 2005 compared to 2004 was more than offset by an increase in deferred cost. In contrast, a significant portion of the revenue deferred in fiscal 2005 to later years was from the first two small batch vertical furnaces delivered during the year for which we deferred $1.0 million of both revenue and costs. For information on the components of deferred profit as of the end of fiscal years 2005 and 2004, refer to Revenue Recognition in Note 1 to the Consolidated Financial Statements in the Annual Report on Form 10-K incorporated by reference into this prospectus. Another factor contributing to the improvement in the gross profit percentage of the semiconductor segment was a reduction in the amount of inventory write-downs to $0.3 million in fiscal 2005, as compared to $0.6 million in 2004, resulting from increased operating activities. Discontinuation of an automation product contributed to the inventory write-downs in fiscal 2005. The higher write-offs in fiscal 2004 are primarily due to approximately $0.3 million of excess inventory acquired from Kokusai written-down from the value at which it was included in the audited financial statements of the acquired business. Sales of inventory written down in prior periods were not significant.

The timing of revenue recognition has 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 installation, generally 10-20% of the order, is recognized in a later period, because the latter revenue has a significantly higher gross margin percentage.

Selling, General and Administrative Expenses

Total selling, general and administrative expenses increased $1.8 million in fiscal 2005, or 34%, compared to 2004. The increase was primarily due to the Bruce Technologies acquisition which added $1.2 million of expense. Additional increases include increased audit fees of $0.2 million and increased commissions and royalties of $0.3 million, resulting from higher sales representative commissions and the increased sales of insert carriers.

Research and Development Expenses

Development work on the small batch vertical furnace product line was the primary factor in the $0.1 million increase in research and development expenses during fiscal 2005 compared to the prior year.

Income Tax Provision

Our income tax provision was $1.0 million higher in fiscal 2004 than in 2005, because it was in 2004 that we provided an allowance for all of our deferred tax assets. 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 and the effectiveness of our tax planning strategies.

As we recognize profits, we will offset the income tax expense by the reversal of the valuation allowance, up to the current tax expense, until fully reversed or until it has been determined the valuation allowance is no longer needed. Despite the book loss before income taxes, we incurred some alternative minimum tax and were taxable in certain states, which resulted in a provision for income taxes of $0.1 million.

Liquidity and Capital Resources

As of September 30, 2006, and 2005, cash and cash equivalents were $6.4 million, and $3.3 million, respectively. Our working capital increased $1.9 million to $11.9 million as of September 30, 2006, compared to $10.0 million as of September 30, 2005. The increase in working capital is primarily a result of $1.3 million of net income increased by certain non-cash charges, including $0.6 million of amortization and depreciation and $0.4 million of other non-cash expenses, plus $0.8 million of net cash raised from the exercise of warrants and stock options, less $1.0 million of capital expenditures and $0.2 million of payments of dividends and long-term debt. At September 30, 2006, our ratio of current assets to current liabilities declined to 2.6:1 compared to 3.7:1 at September 30, 2005.

Our revolving lines of credit contain certain financial and other covenants. We were in compliance with these covenants and had no outstanding borrowings under these lines as of September 30, 2006. Should we fail to meet these covenants the lender could put the loan into default, and demand repayment of any borrowings under the lines.

At September 30, 2006, our principal sources of liquidity consisted of $6.4 million of cash and cash equivalents, $3.3 million in credit facilities and cash from future operating activities.

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. The availability of such capital resources depends on the current 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.

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

	Fiscal Years Ended September 30,		
	2006	2005	2004
Net cash provided by (used in) operating activities	$ 3,335	$ (323)	$ (1,166)
Net cash used in investing activities	$ (956)	$ (279)	$ (4,678)
Net cash provided by financing activities	$ 782	$ 2,302	$ 15

Cash Flows from Operating Activities

Cash provided by our operating activities was $3.3 million in fiscal 2006, compared to $0.3 million of cash used in such activities during fiscal 2005. Cash provided by our fiscal 2006 operating activities consisted of $1.3 million of net income, $1.0 million of non-cash expense adjustments (including $0.6 million of depreciation and amortization, $0.2 million of stock-based compensation, $0.1 million of inventory write downs) and $1.0 million of cash provided from net changes in operating assets and liabilities. The cash provided by net changes in operating assets and liabilities was primarily provided by an increase of $2.4 million in accounts payable, the refund of $0.6 million of income taxes, an increase of $0.6 million of accrued liabilities and deferred profit, a $0.1 million provision of currently payable income taxes and a $0.3 million decrease in prepaid expenses and other assets. These changes were partially offset by increases of $2.3 million in accounts receivable and $0.7 million in inventory.

As of September 30, 2006, we had $5.7 million in purchase obligations compared to $2.7 million at the end of fiscal 2005. The increase in purchase obligations is a result of the significant portion of the year-end backlog that is scheduled for shipment during the first quarter of fiscal 2007, an increase in volume purchasing to reduce costs, and longer lead-times required by our suppliers. During fiscal 2006, we received $0.6 million of domestic and foreign federal income tax refunds as a result of the carryback of prior year net operating losses and our utilization of the remaining net operating losses to offset taxable income. In contrast, during 2007 we will be required to pay the year end tax liability of $0.3 million and taxes on any future income.

Cash Flows from Investing Activities

We used $1.0 million of cash in fiscal 2006 primarily to purchase equipment used to expand the polishing supplies segment product line and, within the semiconductor equipment segment, to upgrade information systems and to purchase research and development equipment. This compares to $0.3 million of cash used to purchase property, plant and equipment in fiscal 2005. Due to our anticipated growth in the semiconductor and solar markets, we expect to increase the manufacturing capacity of our European operations in fiscal 2007 through increased long-term lease commitments for facilities and improvements. Those commitments will increase our future outlays of cash for investing activities.

Cash Flows from Financing Activities

Cash provided by our financing activities was $0.8 million in fiscal 2006, consisting primarily of $0.8 million from the exercise of warrants and stock options, $0.1 million of net short-term bank borrowings on a line of credit 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 2006, 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. However, we will need to raise additional capital from the sale of debt or equity securities or from other sources in order to support the acquisition element of our growth strategy.

Off-Balance Sheet Arrangements

As of September 30, 2006, we did not have any off-balance sheet arrangements as defined by SEC regulations.

Contractual Obligations and Commercial Commitments

We had the following contractual obligations and commercial commitments as of September 30, 2006:

Contractual obligations	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
		(dollars in thousands)			
Long-term debt obligations	$ 764	$ 147	$ 210	$ 40	$ 367
Operating lease obligations:					
Buildings	1,369	468	477	424	
Office equipment	9	5	4		
Vehicles	203	107	96		
Total operating lease obligations	1,581	580	577	424	
Purchase obligations	5,735	5,735			
Total	$ 8,080	$ 6,462	$ 787	$ 464	$ 367
Other commerical obligations:					
Bank guarantees	$ 195	$ 185	$ 10	$	$

Since the end of fiscal 2006 we have increased our contractual obligations through $0.4 million of long-term debt borrowings secured by certain machinery and equipment purchased during fiscal 2006. See note 15 to our Consolidated Financial Statements contained in our Annual Report incorporated by reference into this prospectus. The annual contractual repayment obligation under this financing is approximately $0.1 million per year for the five years ending in fiscal 2011.

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 Risk Factors in this prospectus. 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 the relative fair value of the undelivered items, and 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:

For the semiconductor 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 recorded 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.

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, 2006, 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 2006 or 2005. 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.

Impact of Recently Issued Accounting Pronouncements

For discussion of the impact of recently issued accounting pronouncements, see Item 8: Financial Statements and Supplementary Data contained in our Annual Report, which is incorporated by reference into this prospectus.

OUR 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 three wholly-owned subsidiaries: Tempress Systems, Inc., a Texas corporation with all of its operations in the Netherlands, acquired in 1994 (Tempress Systems or Tempress); P.R. Hoffman Machine Products, Inc., an Arizona corporation based in Carlisle, Pennsylvania, acquired in July 1997 (P.R. Hoffman); and Bruce Technologies, Inc., a Massachusetts corporation based in Billerica, Massachusetts, acquired in July 2004 (Bruce Technologies). See Exhibit 21 Subsidiaries for a complete list of our subsidiaries.

We are a leading supplier of horizontal diffusion furnace systems used for semiconductor and solar (photovoltaic) cell manufacturing and recognized in the markets that we serve for our technology and our brands. We operate in two business segments: semiconductor equipment and polishing supplies. Our semiconductor equipment is sold under the well-known and respected brand names of Tempress Systems and Bruce Technologies. Our semiconductor segment has customers in both the semiconductor industry and the solar industry. Within the semiconductor industry, we serve a market focused on manufacturers of analog, power, automotive and microcontroller chips with geometries greater than 0.3

microns, denoted as µ, which 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 P.R. Hoffman brand, we believe we are also a leading supplier of insert carriers to manufacturers of silicon wafers, and 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 technology and industry presence in an effort to expand our penetration into 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.

Driven by internal and external growth, our net revenue increased 45% year over year in both fiscal 2005 and 2006 to $27.9 million and $40.4 million, respectively. During the fourth quarter of fiscal 2004, we acquired the Bruce Technologies horizontal furnace product line, significantly contributing to the increase in net revenue for fiscal 2005. During fiscal 2006, net revenue increased primarily because of higher capital investment by our semiconductor customers driven by the growth in worldwide demand for electronic products and integrated circuits, as well as the increased demand for solar industry products. Our fiscal 2006 net revenue included a multi-furnace order of approximately $5.2 million from one customer. While we expect follow-on orders from this customer, we do not anticipate receiving an order of this magnitude in fiscal 2007 and, therefore, expect our sales to the semiconductor industry over the near term to be flat or slightly decrease.

We expect, however, our sales to solar cell manufacturers to increase in fiscal 2007. As of September 30, 2006, our backlog from solar industry orders, which we expect to ship in fiscal 2007, was $7.6 million generated from $8.0 million in orders in fiscal 2006. Orders generated in fiscal 2005 were $3.8 million. 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 profit from completing these orders. Net revenue from solar industry sales were $2.8 million and $1.4 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, increased global demand for electricity, solar industry efforts to reduce manufacturing costs and concern over the United States dependence on foreign oil. We plan to continue capitalizing on this trend by improving our existing products and processes for the solar industry, by increasing our solar sales and marketing activities and by acquiring or developing additional products for that industry.

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 P.R. Hoffman brands have long been recognized in our industry and identified with high-quality products, innovative solutions and dependable service. We believe that we are a leading supplier with respect to the markets that we serve. Additionally, we believe that our brand recognition and experience will allow us to capitalize on the market opportunities that exist in the solar industry and realize greater demand for our products than most of our competitors.

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 the largest installed customer base in the semiconductor industry, which leads 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. We also have an extensive retrofit, parts and service business, which typically generates higher margins than our equipment business.

Experienced Management Team. We are led by a highly experienced management team. Our CEO has over 33 years of industry experience, including 25 years with our company. Our three general managers have an average of over 19 years of semiconductor industry experience and an average of 17 years with our company (including 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 semiconductor and wafer manufacturing companies, as well as solar cell manufacturers. 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. In fiscal 2004, our largest customer accounted for approximately 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 a successful acquisition program and have completed the acquisition and integration of three significant businesses. 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. In July 1997, we acquired substantially all of the assets of P.R. Hoffman. This acquisition enabled us to offer new 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 July 2004, we acquired the Bruce Technologies line of semiconductor horizontal furnace operations, product lines and other assets from Kokusai Semiconductor Equipment Corporation (Kokusai), a wholly owned subsidiary of Hitachi, and its affiliate, Kokusai Electric Europe, GmbH. Each of the above acquisitions has contributed to our growth in net revenue and profitability.

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, 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 semiconductor and solar cell manufacturing customers.

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 superior systems.

We believe our line of horizontal diffusion furnaces, which allow high wafer-per-hour throughput, is more technologically advanced than most of our competitors equipment. The design of our furnace allows high wafer-per-hour throughput and increases reliability. In addition, the processing and temperature control systems within the furnace provide diverse proven process capabilities, enabling the application of high-quality films onto silicon wafers.

We recently 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 fiscal 2006. We anticipate that this system will have much of the same process capability as other vertical furnaces in the marketplace, but with a lower cost than that of our competitors. In addition, in 2006, we internally developed a machine to produce precision thickness wafer carriers, which we intend to sell as a premium product and which we expect will increase our sales to the 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 maximize our access to potential customers relative to our competitors with geographically concentrated operations. The geographic distribution of our net revenues from fiscal 2004 through 2006 were as follows:

	2006	2005	2004
Asia	41%	36%	33%
North America	35%	40%	36%
Europe	24%	24%	31%

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: expanding 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.

Expanding on Growth Opportunities in the Solar Industry. We have had recent success in increasing our sales to the solar industry, which resulted in $10 million in solar orders between September 1, 2005 and September 30, 2006. The increase in orders from solar cell manufacturers is due to our focused product development and marketing efforts, as well as to growth in the solar industry. We believe the growth in the solar industry is primarily attributable to: greater interest in environmentally friendly energy alternatives; increased costs of fossil fuels; increased global demand for electricity; solar industry efforts to reduce manufacturing costs; and global concern over dependence on politically unstable countries for oil.

Global demand for electricity is expected to increase from 14.8 trillion kilowatt hours in 2003 to 27.1 trillion kilowatt hours in 2025, according to the U.S. Department of Energy. However, the ability of conventional sources of electricity to meet the rapidly expanding global demand could be limited by supply constraints, rising prices, dependence on politically volatile countries for oil and environmental concerns. Worldwide, annual installations by the photovoltaic industry grew from 0.3 gigawatts of power, or GWP, in 2001 to 1.5 GWP in 2005, representing a compound average annual growth rate, or CAGR, of 50%. Looking forward, according to *Photon International*, total solar cell production is expected to increase from 1,700 megawatts of power, or MWp, in 2005 to 10,400 MWp in 2010 for a CAGR of 44%**.** We believe this growth will drive significant demand for our products in the future.

Expanding on Growth Opportunities in the Asia-Pacific Market. With our extensive global knowledge and experience, we intend to further leverage our established sales channels in the Asia-Pacific market. Asia continues to be an important and expanding market for us, particularly because of the continued migration of semiconductor and solar cell 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%. Our sales into Asia increased over 60% in fiscal 2006 compared to fiscal 2005 and we expect continued growth in this market.

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 anticipate that this system will have much of the same process capability as other vertical furnaces in the marketplace, but with a lower cost than most of our competitors. 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 these 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. In 2006, we developed a machine to produce precision thickness wafer carriers, which we expect will increase our sales to of the carrier market.

Enhancing our Sales and Marketing Capabilities. 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 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 to leverage 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 a customer s relocation to or expansion 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 a successful acquisition program and have completed the acquisition and integration of three significant businesses.

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.

In 1997, we acquired substantially all of the assets of P.R. Hoffman Machine Products Corporation. 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.

During the period between 1999 and 2003, we evaluated and negotiated numerous acquisition opportunities that we ultimately declined to consummate because of what we believed to be inflated market prices.

In 2004, we acquired certain semiconductor horizontal diffusion furnace operations, product lines and other assets from Kokusai, a wholly owned subsidiary of Hitachi, 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.

Each of the above acquisitions has contributed to our growth in net revenue and profitability. Based on a disciplined acquisition strategy, we continue to evaluate potential technology, product and business acquisitions or joint ventures that will 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 production efficiency and growing our customer base.

SEMICONDUCTOR AND SOLAR INDUSTRIES

Our company provides products and services primarily to two industries: the semiconductor industry and the solar industry.

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 referred to above.

The semiconductor industry has experienced significant growth since the early 1990s. This growth is primarily attributable to increased demand for personal computers, 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 traditional products with more intelligence. This 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 continued to improve through 2006.

Solar Industry

Solar electricity is generated using either photovoltaic or solar thermal technology to extract energy from the sun. Photovoltaic electricity generating systems directly convert the sun s energy into electricity. Since 1985, the global market for solar power, as defined by shipments of solar power systems, has grown at a CAGR of over 20%, according to Strategies Unlimited. The global solar power market, as defined by installations of solar power systems, is expected to grow from $6.5 billion in revenue in 2004 to $18.5 billion by 2010 and, in terms of capacity, at an annual rate of 23% from 927 megawatts to 3.2 gigawatts during that same time-period, according to *SolarBuzz*.

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 and telecommunications equipment, as well as rural residential applications. Consumer applications include outdoor lighting and handheld devices such as calculators.

Industry Manufacturing Processes

Semiconductor Front End Manufacturing Process Flow Chart

(*) 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;

(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 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).

Solar Cell Manufacturing Process Flow Chart

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

The solar industry uses many of the same process steps used in semiconductor manufacturing in the high-volume production of solar cells:

(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 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. A part of our growth strategy involves evaluating opportunities to increase the number of process steps we serve in both the semiconductor and solar cell manufacturing processes by acquiring additional product lines.

SEMICONDUCTOR 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 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 ($POCl_3$) (step 6), low-pressure chemical vapor deposition (LPCVD) (step 7), and annealing (step 13).

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. We anticipate that this system will have much of the same process capability as other vertical furnaces in the marketplace, but with a lower sales price than many of our competitors. 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. We shipped our first two vertical furnaces in fiscal 2005 and shipped another vertical furnace in fiscal 2006.

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. 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 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, semiconductor and solar cell 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.

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 P.R. 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. In 2007, we plan to begin selling precision-thickness insert carriers to further expand our offerings in this important market.

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, our surface processing systems are priced lower than competing 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 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 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 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 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. This 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. In addition, with respect to sales to the solar industry, we rely upon a single vendor for certain automation components used in conjunction with our furnaces. Prior to the fourth quarter of fiscal 2004, we subcontracted the laser-cutting 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 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 order backlogs as of September 30, 2006 and 2005 were $13.6 million and $14.4 million (including the $5.2 million multi-furnace order from a single customer previously discussed), respectively. Our backlog as of September 30, 2006 includes approximately $7.6 million of orders from our solar industry customers. 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 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. The backlog as of September 30, 2006 and 2005 includes $0.9 million and $1.0 million of open orders or deferred revenue, respectively, 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.

During 2003, we received an order for a newly designed small batch vertical furnace. 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. We anticipate that this furnace will have much of the same process capability as other vertical furnaces in the marketplace, but with a lower cost than most of our competitors. Our first two small batch vertical furnaces were shipped in fiscal 2005 and a third in fiscal 2006. Two of these furnaces were accepted in fiscal 2006. We expect the other to be accepted in fiscal 2007; however, there can be no assurance that it will be accepted.

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 $0.4 million (1.1% of net revenue) in fiscal 2006, $0.6 million (2.2% of net revenue) in 2005, and $0.5 million (2.8% of net revenue) in 2004. These amounts exclude those expenses incurred in connection with customer orders or supported by government grants.

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, The Netherlands, United Kingdom	Pending
Atmospheric Pressure Control for Solar Furnace	Europe	Pending
Small Batch Furnace (SBVF)	Europe	Pending
Dual Cylinder Loadport for 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
Boat Transfer and Queuing Furnace Elevator and Method	United States	June 16, 2007
Cross Flow Diffusion Furnace (**)	United States	November 2, 2007
Double Wall Fast Cool-Down Furnace (**)	United States	January 8, 2007
Fast, Safe, Pyrogenic External Torch Assembly (*)	United States	December 17, 2011
Movable Core Fast Cool-Down Furnace (**)	United States	January 8, 2007

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

(**) Patent is licensed from the patent holder on an exclusive basis for horizontal furnaces.

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 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.

In fiscal 2006, net revenue was distributed among customers in different geographic regions as follows: North America 35% (including 34% in the United States), Asia 41% (including 13% in Malaysia) and Europe 24% (including 14% to Germany). One customer represented approximately 17% of net revenue in fiscal 2006. No customer represented greater than 10% of net revenue during fiscal 2005. One customer represented approximately 10% of net revenue during fiscal 2004. 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 semiconductor and solar cell 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. The Bruce Technologies product line had a 41% share of the horizontal diffusion furnace installed base in 1998 (the most recent year in which such information has been available) according to VSLI Research Data. We believe that we have maintained our market share and a relatively large installed base.

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. 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.

During fiscal 2005, we entered into a memorandum of understanding with a Chinese manufacturer of low cost horizontal furnaces in order to determine whether they can become a supplier and thereby help us to become more competitive in the lower-end market. While discussions with this manufacturer have been put on hold in order to pursue other higher priority activities, we still have an objective of securing a manufacturing source or capability in Asia. See Risk Factors for a discussion regarding the impact of the industry trend of producing smaller

chips on larger wafers may have on our horizontal diffusion furnace sales.

We believe our automation products compete favorably with those of our primary competitors in semiconductor applications, which include Mactronics and Koyo Thermo Systems Co. Ltd. In that 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 automation products provide us with a competitive advantage. We expect our automation product competitors to seek to continually improve the design and performance of their products and we can make no assurance that our automation competitors will not develop enhancements or acquire new technologies that will offer price or performance features superior to those that we offer. Our automation products are designed to 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 automation products through introductions to the installed based 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 that afford to its users a higher yield. However, vertical furnaces provide the same benefits as our Atmoscan product to manufacturers that can justify the higher price.

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

At September 30, 2006, we employed 153 people. Of these employees, 16 were based at our corporate offices in Tempe, Arizona; 28 were employed at our manufacturing plant in Carlisle, Pennsylvania; 31 at our manufacturing plant in Billerica, Massachusetts; 50 at our facilities in and near Heerde, The Netherlands; and 28 in our contract semiconductor manufacturing support services business located in Austin, Texas. Of the 28 people employed at our Carlisle, Pennsylvania facility, 17 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.

MANAGEMENT

The following table sets forth information regarding the executive officers and directors of the Company. The subsequent paragraphs contain biographical data for each director.

Name	Age	Position with the Company
Jong S. Whang	61	President, Chief Executive Officer and Director
Bradley C. Anderson	45	Vice President Finance, Chief Financial Officer, Treasurer and Secretary
Robert T. Hass	56	Chief Accounting Officer
Lawrence D. Firestone	48	Director
Robert F. King	73	Director

Jong S. Whang has been President, Chief Executive Officer and a Director of the Company since its inception in 1981, and was one of its founders. Mr. Whang s responsibilities include the sales effort for our semiconductor equipment business and the development of new products and business opportunities in that industry. He has 33 years of experience in the semiconductor industry, including time spent in both processing and manufacturing of equipment components and systems. From 1973 until 1979, he was employed by Siltronics, Inc., initially as a technician working with chemical vapor deposition, and later as manager of the quartz fabrication plant with responsibility of providing technical marketing support. From 1979 until 1981, he was employed by U.S. Quartz, Inc. as manufacturing manager. In 1981, he left U.S. Quartz to form the Company.

Bradley C. Anderson joined us as Vice President-Finance, Chief Financial Officer, Treasurer and Secretary in April 2006. Prior to that, Mr. Anderson spent several years in a consulting role implementing the internal control requirements of the Sarbanes-Oxley Act for a broad range of publicly held companies. From 1996 to 2002, Mr. Anderson served as Vice President-Finance and then as Chief Financial Officer of Zila, Inc., an international provider of healthcare technology and products. Mr. Anderson began his career with Deloitte (formerly Deloitte & Touche) where he worked for over 11 years. He graduated from Brigham Young University with a Bachelor of Science in Accounting. Mr. Anderson is Certified Public Accountant.

Robert T. Hass has been the Chief Accounting Officer and Assistant Secretary of the Company since April 2006. Prior to that, he served as our Vice President - Finance, Chief Financial Officer, Treasurer and Secretary from June 1992 to April 2006, and as Director from February 1996 to March 2006. From 1991 until May, 1992, he operated a financial consulting practice. From 1985 to 1991, Mr. Hass was Director of Accounting Services and then Controller for Lifeshares Group, Inc., and from 1988 to 1991 was Controller and Chief Accounting Officer

of some of Lifeshares subsidiaries. From 1984 to 1985, he was Vice President - Finance and Treasurer of The Victorio Company. From 1977 to 1984, he served in various capacities including Vice President, Chief Financial Officer and Treasurer of Altamil Corporation, then a public diversified manufacturing company. From 1972 to 1977, he was an auditor with Ernst & Ernst, now known as Ernst & Young. Mr. Hass has a Bachelor of Science degree in accounting from Indiana University.

Lawrence D. Firestone is the Executive Vice President, Chief Financial Officer of Advanced Energy Industries, Inc., a supplier of power supplies and mass flow controllers to the semiconductor, solar, flat panel display, data storage and other industries. From 1999 to 2006, Mr. Firestone served as the Chief Financial Officer, Secretary and Treasurer of Applied Films Corporation, a supplier of thin film deposition equipment to several industries, including the solar cell industry, with global operations, and the Senior Vice President of Applied Films from 2003 to 2006. From 1996 until 1999, Mr. Firestone served as Vice President and Chief Operating Officer of Avalanche Industries, Inc., a contract manufacturer of custom cables and harnesses. From 1993 to 1996, Mr. Firestone served as Director of Finance and Operations for the Woolson Spice and Coffee Company, a gourmet coffee roasting and distribution company, and from 1988 to 1993, as Vice President and Chief Financial Officer for TechniStar Corporation, a manufacturer of robotic automation equipment. From 1981 to 1988, Mr. Firestone served in various capacities and finally as Vice President and Chief Financial Officer at Colorado Manufacturing Technology, a contract manufacturer that specialized in printed circuit board and cable assembly. Additionally, until July 2005, Mr. Firestone served on the board of directors of HyperSpace Communications, Inc. (AMEX: HCO), and he served as chairman of their audit and governance committees. Mr. Firestone has a Bachelor of Science degree in business administration with a concentration in accounting from Slippery Rock State College.

Robert F. King has been a Director of the Company since May 2003. Since 1989, Mr. King has been President of King Associates, which provides consulting services to equipment companies serving the semiconductor and flat panel display industries. He currently serves on the advisory board of a privately-held company, which provides equipment to the flat panel display industry. From 1968 to 1988, Mr. King was employed at Varian Associates, where he served in various marketing positions, including Vice President of Marketing for the Semiconductor Equipment Division. Mr. King also served on the Board of Directors of Varian s joint venture semiconductor equipment companies located in Korea and Japan.

DESCRIPTION OF CAPITAL STOCK AND RELATED SHAREHOLDER MATTERS

The following is a description of the material provisions of our capital stock, as well as other material terms of our amended certificate of incorporation and bylaws as they will be in effect as of the consummation of the offering. This description is only a summary. You should read it together with our amended articles of incorporation and bylaws, which are incorporated as exhibits to the registration statement of which this prospectus is part.

General

As of January 29, 2007, our total authorized capital stock consisted of 100,000,000 shares of common stock, par value $.01 per share and 100,000,000 shares of preferred stock. As of January 29, 2007, 3,476,042 shares of common stock are issued and outstanding and no shares of preferred stock are issued and outstanding. As of January 29, 2007, options to purchase 378,384 shares of common stock are outstanding.

Common Stock

The holders of outstanding shares of our common stock are entitled to receive dividends out of assets legally available therefor at such time and in such amounts as the board of directors may from time to time determine subject to the prior rights of the holders of any preferred stock. The

holders of our common stock have no preemptive or subscription rights to purchase any of our securities. Upon our liquidation, dissolution or winding up, the holders of common stock are entitled to receive, pro rata, our assets which are legally available for distribution, after payment of all debts and other liabilities and subject to the rights of any holders of preferred stock. Each outstanding share of common stock is entitled to one vote on all matters submitted to a vote of shareholders. There is no cumulative voting with respect to any shares of capital stock.

Our common stock is quoted on The NASDAQ Global Market under the symbol ASYS.

Preferred Stock

Our board of directors may, without further action by our shareholders, from time to time, issue shares of blank check preferred stock. In addition, the board may, at the time of issuance, determine the rights, preferences and limitations of each series of preferred stock. Satisfaction of any dividend preferences of outstanding shares of preferred stock would reduce the amount of funds available for the payment of dividends on shares of common stock. Holders of shares of preferred stock may be entitled to receive a preference payment in the event of any liquidation, dissolution or winding-up of Amtech before any payment is made to the holders of shares of common stock. Under some circumstances, the issuances of shares of preferred stock may make a merger, tender offer or proxy contest or the assumption of control by a holder of a large block of our securities or the removal of incumbent management more difficult. Upon the vote of a majority of the directors then in office, our board of directors, without shareholder approval, may issue shares of preferred stock with voting and conversion and other rights which could adversely affect the holders of shares of common stock.

Registration Rights

In connection with our private placement of Series A Convertible Preferred Stock on April 22, 2005, we entered into a registration rights agreement with the holders of the shares of the Series A Convertible Preferred Stock pursuant to which we agreed to provide certain registration rights with respect to the shares of common stock issuable upon conversion of the preferred stock. All of the Series A Convertible Preferred Stock was automatically converted into 540,000 shares of the Company s common Stock on March 20, 2006. In addition, the placement agent received a warrant to purchase 60,000 shares of our common stock having the same registration rights as the Series A Convertible Preferred Stock. The warrant was exercised in full on February 7, 2006. The common stock underlying the Series A Convertible Preferred Stock, the warrant and the dividend payments on the preferred stock was registered with the SEC and went effective as of February 3, 2006.

Shareholder Rights Plan

On May 17, 1999, we adopted a shareholder rights plan. The shareholder rights plan authorized 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 antidilution adjustments. The rights will expire 10 years after issuance and will be exercisable if: a person or group becomes

the beneficial owner of 15% or more of our common stock (a Stock Acquisition Date); or a person or group commences a tender or exchange offer that would result in the offeror beneficially owning 15% or more of our common stock.

If a Stock Acquisition Date occurs, each right, unless redeemed by us at $0.01 per right, will entitle the holder to purchase an amount of our 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. As of the date of this prospectus, these rights were not exercisable.

Each share of Series A Participating Preferred Stock purchasable upon exercise of the rights will be entitled to an aggregate dividend of 100 times the dividend declared per share of common stock. In the event of liquidation, the holders of the Series A Participating Preferred Stock will be entitled to a minimum preferential liquidation payment of 100 times any payment made per share of common stock and, depending upon the amount of proceeds to be distributed, will share with the holders of the common stock in such distribution. Each share of Series A Participating Preferred Stock will have 100 votes, voting together with the common stock. In the event of any merger, consolidation or other transaction in which shares of common stock are changed or exchanged, each share of Series A Participating Preferred Stock will be entitled to receive 100 times the amount received per share of common stock.

The shareholder rights plan provides that we may amend the plan without the approval of the holders of the rights prior to the occurrence of a Distribution Date. A Distribution Date under the rights plan is the date that is the earlier of (i) the close of business on the tenth business day following a Stock Acquisition Date, and (ii) the close of business on the tenth business day after a tender or exchange offer by a party is first published or sent to shareholders.

The shareholder rights plan provides that shares of common stock issued by us, including the shares of common stock offered by us pursuant to this prospectus, will be issued with the rights described above.

Anti-Takeover Effects of Various Provisions of Arizona Law and Our Amended Certificate of Incorporation and Bylaws

Arizona Revised Statutes (ARS) Sections 10-2701 et seq. were adopted by the Arizona legislature in an attempt to prevent corporate greenmail and restrict the ability of a potential suitor to acquire domestic corporations. These statutes generally apply to business combinations or control share acquisitions of issuing public corporations, which defined term includes Amtech. The provisions summarized below could discourage, deter, delay or impede a tender offer or other attempt to acquire control of Amtech.

Arizona Business Combination Statute

The Arizona business combination statute would limit our ability to engage in Business Combinations with Interested Shareholders (each as defined below).

Business Combination means any (A) merger or consolidation of Amtech or any subsidiary of Amtech with an Interested Shareholder, (B) exchange of shares of the Amtech s common stock or any subsidiary for shares of an Interested Shareholder, or (C) sale, lease, transfer or other disposition to or with an Interested Shareholder of 10% or more of the consolidated assets of Amtech.

Interested Shareholder means any person other than Amtech or a subsidiary of Amtech that is either (A) a direct or indirect beneficial owner of 10% or more of the voting power of the outstanding common stock of Amtech or (B) an affiliate of Amtech who at any time during the three years immediately before the date in question was the beneficial owner of 10% or more of the voting power of the then outstanding common stock of Amtech.

Share Acquisition Date means the date that a person first becomes an Interested Shareholder of Amtech.

Business Combinations Within Three Years After Share Acquisition Date. For three years after an Interested Shareholder s Share Acquisition Date, Amtech may not directly or indirectly engage in any Business Combination with an Interested Shareholder or any affiliate of an Interested Shareholder unless, before the Interested Shareholder s Share Acquisition Date, a committee of disinterested directors approved either:

- the Business Combination; or
- the acquisition of common stock made by the Interested Shareholder on the Interested Shareholder s Share Acquisition Date.

Business Combinations More Than Three Years After Share Acquisition Date. If a committee of disinterested directors has not approved the Business Combination or the acquisition of common stock as provided above, Amtech may not directly or indirectly engage in any Business Combination with an Interested Shareholder or any affiliate of an Interested Shareholder unless:

- the Business Combination is consummated no earlier than three years after the Interested Shareholder s Share Acquisition Date, and before the Share Acquisition Date, Amtech s Board of Directors approved either
  - the Business Combination; or
  - the acquisition of common stock made by the Interested Shareholder on the Share Acquisition Date;
- the Business Combination is approved no earlier than three years after the Interested Shareholder s Share Acquisition Date by the affirmative vote of a majority of the outstanding voting shares of the common stock of Amtech (excluding shares of common stock beneficially owned by the Interested Shareholder or any affiliate thereof); or
- the Business Combination is consummated no earlier than three years after the Interested Shareholder s Share Acquisition Date and meets certain specified conditions designed to ensure against discriminatory pricing.

Arizona Control Share Acquisition Statute

General. The Arizona control share acquisition statute would limit the voting rights of a person who acquires shares of Amtech under certain circumstances in a control share acquisition (as defined below).

Control Share Acquisition means an acquisition, directly or indirectly (in one or more transactions within 120 days or pursuant to a plan), by a person of beneficial ownership of shares of common stock of Amtech that would, but for the limitations in the control share acquisition statute, entitle the acquiring person to exercise a new range of voting power within the following specified ranges: (A) at least 20% but less than 33-1/3%, (B) at least 33-1/3% but less than or equal to 50% and (C) over 50%.

Information Statement. Within ten days after a Control Share Acquisition, the acquiring person must deliver to the corporation an information statement specifying, among other things, the range of voting power in the election of directors that, but for the limitations in the statute, the acquiring person believes would result from the Control Share Acquisition. At the time of delivery of the information statement, the acquiring person may request that a special meeting of shareholders be called to consider the voting rights of excess shares (referred to below).

Limitation on Voting Rights of Excess Shares. To the extent that shares of common stock of Amtech acquired in a Control Share Acquisition exceed the threshold of voting power of any of the next specified range of voting power, such excess shares will have the same voting rights as other shares of common stock for election of directors but will not have the right to vote on other matters unless approved by a shareholder resolution at an annual or special meeting. Such resolution must be approved by the affirmative vote of a majority of the outstanding voting shares of common stock (excluding shares owned by the acquiring person, its affiliates or any officer or director of Amtech).

Financing Agreement. The status of voting rights of excess shares is not required to be presented for consideration at any meeting of shareholders unless, at the time of delivery of the information statement referred to above, the acquiring person has entered into a definitive financing agreement for any financing of the acquisition not to be provided by monies of the acquiring person.

Redemption by the Company. If an acquiring person fails to deliver the required information statement within ten days after a Control Share Acquisition or if the Companies shareholders have voted not to accord voting rights to an acquiring person s excess shares referred to above, then Amtech may call for the redemption of such excess shares at the fair market value of those shares at the time the call for redemption is given.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, located at 350 Indiana Street, Suite 800, Golden, Colorado 80401.

UNDERWRITING

Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriter, C.E. Unterberg, Towbin, LLC has agreed to purchase from us all of the shares of common stock offered by us through this offering.

The underwriting agreement provides that the obligations of the underwriter are subject to certain conditions, including the approval of legal matters by its counsel. The nature of the underwriter s obligations is that it is committed to purchase and pay for all of the shares of common stock offered by us through this offering, other than shares of our common stock covered by the over-allotment option described below.

Public Offering Price

The underwriter proposes initially to offer the shares of common stock offered by this prospectus directly to the public for the offering price per share set forth on the cover page of this prospectus. After commencement of this offering, the offering price and discount may be changed by the underwriter. No such change will alter the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

Over-allotment Option

If the underwriter sells more shares than the total number set forth in the table above, the underwriter has a 30-day option to purchase up to an additional 393,750 shares from us at the offering price less the underwriting discounts and commissions to cover these sales.

Underwriting Compensation

The underwriting discount is equal to the public offering price per share of common stock less the amount paid by the underwriter to us per share of common stock. The following table summarizes the compensation to be paid to the underwriter by us in connection with this offering. The following amounts are shown assuming both no exercise and full exercise of the underwriter s option to purchase additional shares.

	Paid by Amtech Systems, Inc.

	No Exercise	Full Exercise
Per Share	$ 0.4935	$ 0.4935
Total	$ 1,295,438	$ 1,489,753

Other Offering Expenses, Acceptance and Delivery

We estimate that the total expenses of the offering, excluding underwriting discounts and commissions, will be approximately $500,000. The offering of the shares is made for delivery, when, as and if accepted by the underwriter and subject to prior sale and to withdrawal, cancellation or modification of the offering without notice. The underwriter reserves the right to reject an order for the purchase of our shares in whole or in part.

Indemnification of Underwriter

We have agreed to indemnify the underwriter against certain civil liabilities, including liabilities under the Securities Act, and, where such indemnification is unavailable, contribute to payments the underwriter may be required to make in connection with these liabilities.

Lock-Up Arrangements

We and certain of our directors, senior executive officers and shareholders holding an aggregate of approximately 94,830 shares of our common stock and the holders of options to purchase approximately 264,000 shares of our common stock have entered into lock-up agreements pursuant to which they have agreed not to, directly or indirectly, issue, sell, agree to sell, grant any option or contract for the sale of, pledge or otherwise dispose of, or, in any manner, transfer all or a portion of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock or any interest therein owned as of the date hereof or hereafter acquired for a

period of 90 days after the date of this prospectus without the prior written consent of C.E. Unterberg, Towbin, LLC. C.E. Unterberg, Towbin, LLC has advised us that it has no present intention to release any of the shares subject to the lock-up agreements prior to the expiration of the lock-up period.

Stabilization and Other Transactions

In connection with this offering, the underwriter may engage in transactions that stabilize, maintain or otherwise affect the market price of our common stock. These transactions may include stabilization transactions effected in accordance with Rule 104 of Regulation M under the Securities Exchange Act, pursuant to which the underwriter may make any bid for, or purchase, common stock for the purpose of stabilizing the market price. The underwriter also may create a short position by selling more common stock in connection with this offering than it is committed to purchase from us, and in such case may purchase common stock in the open market following completion of this offering to cover all or a portion of such short position. In addition, the underwriter may impose penalty bids whereby it may reclaim from a dealer participating in this offering, the selling concession with respect to the common stock that it distributed in this offering, but which was subsequently purchased for the accounts of the underwriter in the open market. Any of the transactions described in this paragraph may result in the maintenance of the price of the common stock at a level above that which might otherwise prevail in the open market. None of the transactions described in this paragraph is required and, if they are undertaken, they may be discontinued at any time.

LEGAL MATTERS

The validity of the shares of common stock offered hereby has been passed upon for us by our counsel, Squire, Sanders & Dempsey L.L.P., Phoenix, Arizona. Pillsbury Winthrop Shaw Pittman LLP, Palo Alto, California, is acting as counsel for the underwriter in connection with certain legal matters relating to the shares of common stock offered hereby.

EXPERTS

The consolidated financial statements of Amtech Systems, Inc. and subsidiaries as of September 30, 2006 and 2005, and for each of the years in the two-year period ended September 30, 2006, have been incorporated by reference herein in reliance upon the report of Mayer Hoffman McCann P.C., independent public accountants, incorporated by reference herein upon the authority of said firm as experts in accounting and

auditing in giving said reports.

The consolidated statements of operations, stockholders equity and comprehensive income (loss) and cash flows of Amtech Systems, Inc. and subsidiaries for the year ended September 30, 2004 have been incorporated by reference herein in reliance upon the report of KPMG L.L.P., independent registered public accounting firm incorporated by reference herein, upon the authority of that firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly, current and special reports, proxy statements and other information with the Securities and Exchange Commission (the SEC) under the Securities Exchange Act of 1934, as amended. You may read and copy this information at the following location of the SEC:

Public Reference Room
100 F Street, NE
Washington, D.C. 20549

You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

The SEC also maintains an Internet web site that contains reports, proxy and information statements and other information about issuers that file electronically with the SEC. The address of that site is *www.sec.gov*.

We have filed a registration statement on Form S-1 with the SEC that covers the sale of the common stock offered by this prospectus. This prospectus is a part of the registration statement, but the prospectus does not include all of the information included in the registration statement. You should refer to the registration statement for additional information about us and the common stock being offered in this prospectus. Statements that we make in this prospectus relating to any documents filed as an exhibit to the registration statement or any document incorporated by reference into the registration statement may not be complete and you should review the referenced document itself for a complete understanding of its terms.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

This prospectus incorporates documents by reference that are not presented in or delivered with it. We are incorporating by reference into this prospectus certain information we file with the SEC, which means that we are disclosing important information to you by referring you to the publicly filed documents containing that information. The information incorporated by reference is deemed to be part of this prospectus, except for any information superseded by information contained directly in this prospectus. This prospectus incorporates by reference our:

Annual Report on Form 10-K for the year ended September 30, 2006, filed on December 21, 2006;

Current Report on Form 8-K filed on December 14, 2006;

Amendment No. 1 to the Annual Report on Form 10-K for the year ended September 30, 2006, filed on January 29, 2007; and

All other reports filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act between the filing date and the effective date of the registration statement of which this prospectus is a part.

This filing is available at the SEC s website, *www.sec.gov*, as well as our website, *www.amtechsystems.com*. You may also request a copy of this filing, at no cost, by writing or calling us at the following address or telephone number:

Corporate Secretary
Amtech Systems, Inc.
131 South Clark Drive
Tempe, Arizona 85281
(480) 967-5146

Any statements contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus (or in any other subsequently filed document which also is incorporated by reference in this prospectus) modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed to constitute a part of this prospectus except as so modified or superseded.

Important Notice About the Information Presented In This Prospectus

You should rely only on the information provided in this prospectus and the information incorporated by reference. We have not authorized anyone to provide you with different information. Amtech Systems, Inc. is not offering to sell, or seeking offers to buy, the shares in any state where offers or sales are not permitted. We do not claim the accuracy of the information in this prospectus as of any date other than the date stated on the cover.

This prospectus contains market data and industry forecasts that were obtained from industry publications, third-party market research and publicly available information. These publications generally state that the information contained therein has been obtained from sources believed to be reliable, but the accuracy and completeness of such information is not guaranteed. While we believe that the information from these publications is reliable, we have not independently verified and make no representation as to the accuracy of such information.

Amtech Systems, Inc.

2,625,000 Shares of Common Stock

PROSPECTUS

February 1, 2007