

AMTECH SYSTEMS, INC.

Supplying the semiconductor,
semiconductor wafer, MEMS and
solar cell industries with quality production
equipment and supplies for . . .

. . . polishing wafers

. . . automating
wafer transfer,

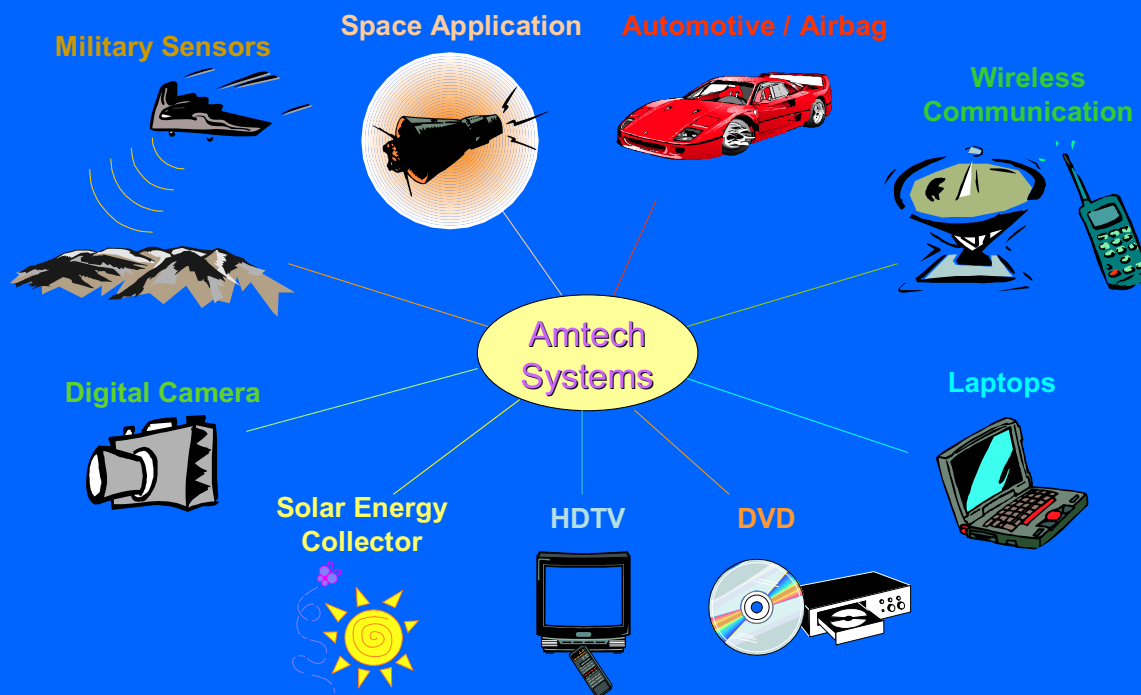
. . . and wafer
processing.

FISCAL 2005 ANNUAL REPORT



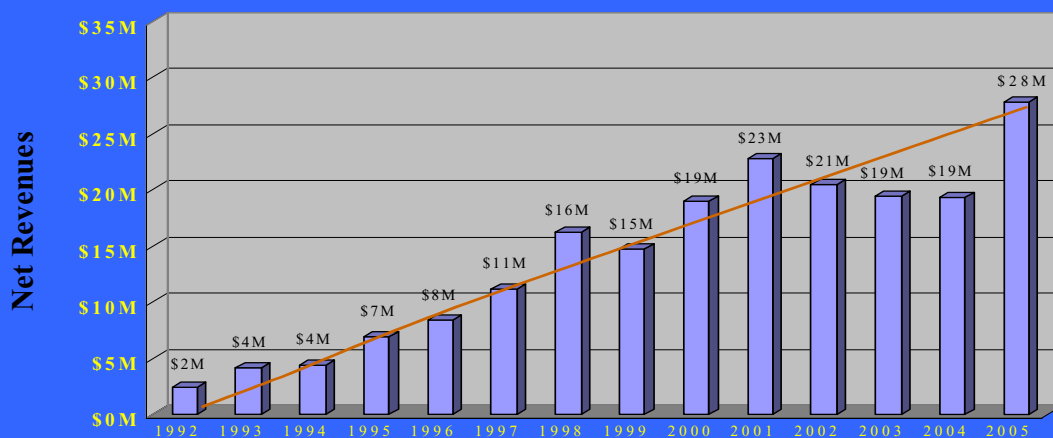
Amtech Systems, Inc.

Products of our Customers and Their Customers



The Company's products add value in several stages of production of semiconductors, semiconductor wafers, MEMS components and solar cells used in certain internal components of the products illustrated above. The Company's polishing supplies are used in the preparation of the wafer for further processing, while our diffusion furnaces and automation products facilitate the safe, efficient fabrication of integrated circuitry onto a silicon wafer substrate through the growth or deposition of conducting and insulating materials.

Summary of Net Revenues **21% Compounded Annual Growth Rate**



Note: Figures are rounded off to the nearest million

Fiscal Year Ended September 30

TO OUR SHAREHOLDERS:

During fiscal 2005, revenues increased 45% to \$27.9 million. Approximately 64% of the increase resulted from the July 1, 2004 acquisition of Bruce Technologies and 36% from organic growth. The 2005 pretax loss declined 92% to \$0.2 million from \$2.1 million in fiscal 2004, primarily due to the revenue growth and the recognition during the year of profit deferred in 2004. The net loss for 2005 was \$0.3 million, an improvement of \$2.9 million over the 2004 results, as we provided a valuation allowance of \$1.1 million on our net deferred tax assets in the earlier period. We are very pleased with the increase in revenue during 2005, resulting from the continuing execution of our growth strategy. During 2006, we look forward to continued growth and improved profitability through the implementation of our strategy.

FISCAL 2005 HIGHLIGHTS

During fiscal 2005, we.....

- Finished fiscal 2005 with \$28 million of revenue, representing a 21% compounded average annual growth rate for our current business since 1992;
- Shipped the first two models of our newly developed small batch vertical diffusion furnace in June and August of 2005, with the revenue deferred to fiscal 2006;
- Raised \$1.9 million from the issuance of 540,000 shares of convertible preferred stock primarily to institutional investors.
- Our polishing segment completed its ISO 9001 recertification; and
- Continued to penetrate the market for 300mm diffusion furnaces and automation.

OUR GROWTH STRATEGY

Our growth strategy consists of...

- Internal or organic growth, i.e. increasing market share by developing new products or services within our existing product

lines (e.g., see above), for the semiconductor industry and increasing our penetration of expanding markets, such as solar cells, and adding or further penetration of emerging markets, e.g. compound semiconductor materials, and MEMS (microelectromechanical system) components;

- Acquisition growth, which involves acquiring new product lines or businesses that build on core competencies and that complement our business model, such as the acquisition of Bruce Technologies;
- Innovative growth, i.e. the development or acquisition of new product lines or businesses using leading technologies through research and development; and
- Aggressively managing opportunities in the solar cell industry, to maximize our share of this rapidly growing market.

PLANS FOR FISCAL 2006

During fiscal 2006, we will continue to execute our growth strategy by seeking to increase our share of the markets in which we participate. We will continue the integration of the Bruce Technologies operations. We officially launched our new small batch vertical furnace product in the first quarter of 2006. As we approach critical mass, we will develop strategies for increased profitability. We believe that we are well positioned to take advantage of these and many other opportunities.

We wish to thank our employees worldwide for their extraordinary efforts and loyalty during this dynamic, highly competitive environment that is currently prevailing in the semiconductor industry. With support from our customers, stockholders, suppliers, and employees, we are confident that Amtech Systems can continue its rapid growth and at the same time improve its profitability.

Sincerely,

J.S. Whang
President and Chief Executive Officer

SEMICONDUCTOR EQUIPMENT SEGMENT PRODUCTS

Amtech designs, manufactures and sells products used in the fabrication of semiconductor devices, MEMS components and solar cells. Currently, this line of products is primarily comprised of horizontal diffusion and CVD (chemical vapor deposition) processing equipment used in repetitive semiconductor fabrication steps for growing or depositing layers of conducting and insulating materials to form integrated circuits on silicon wafer substrates. In production there are many different process steps. Our first small batch vertical furnace systems were shipped in the second half of fiscal 2005, with the revenue deferred to fiscal 2006. For long processes, like thick oxides, or at high temperatures a horizontal furnace is more cost effective and when combined with mass wafer transfer loading of our S-300 automation it provides an excellent solution for these processes, particularly on wafer sizes ranging from six inch (150mm) to twelve inch (300mm).

HORIZONTAL DIFFUSION FURNACES



Pictured above is one of the many models of horizontal diffusion furnace systems designed, manufactured and sold by the Company under the Tempress® trade name.



The above diffusion furnace design was acquired in July 2004 along with the horizontal furnace division of Kokusai and is being manufactured and sold under the Bruce Technologies® trade name.

SMALL BATCH VERTICAL FURNACES (SBVF)

For short processes, and high quality layers like thin oxides, and for small geometry devices, our SBVF (small batch vertical furnace) will provide the best solution.



The combination of our SBVF and either the Tempress® or Bruce Technologies® Horizontals provide the best Mix-and-Match selection available in the market, all with support from one vendor.

The first two models of our SBVF systems shipped in June and August of 2005.

We formally launched the SBVF into the market in our first fiscal quarter of 2006.

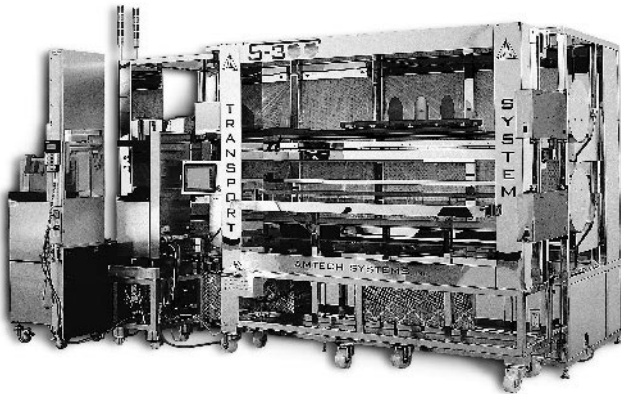


AMTECH'S FAMILY OF AUTOMATION PRODUCTS

Amtech's family of automation products provides a safer and more efficient method of loading and unloading horizontal diffusion furnace systems with silicon wafers. Many semiconductor fabricators still use human operators to load horizontal diffusion furnace systems, where the top tube level can be as high as seven feet, and with internal heating chambers that can reach temperatures of 1300° C. The use of Amtech's automation products reduces the risk of scrap caused by human error and the exposure of wafers to contaminants. These products also improve the ergonomics and safety of loading and unloading wafers at the various tube levels and improve the economics of horizontal diffusion furnace systems. Such safety issues are particularly important due to the trend to larger wafer sizes because, as wafer sizes increase, each boat of wafers becomes heavier and more difficult to handle, and the diameter of the furnace chambers increases, causing an increase in the height of the upper tube level.

S-300

The S-300 model (at right), a patented product, 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. This product is suitable for the production of nearly all semiconductors fabricated in a horizontal furnace, but is not compatible with furnace reactor chambers where the process requires an Atmoscan®. During 2002, Amtech began shipping new S-300 models for 300mm wafers and other models with cassette-to-cassette capability and SECS II Gem interface to the customer's factory automation and an interface to third party SMIF pod openers. Amtech believes that customers will view the addition of the SECS II Gem interface to their factory automation as a means to reduce scrap caused by an operator loading wafers into the wrong process chamber.



(Left) The products described above and on the preceding page are highly complementary and synergistic. They are sold to the same customers, through the same distribution channels, often as fully integrated systems. Pictured is an Amtech loadstation (background), S-300 automation system (right of center), a third-party SMIF pod cassette on a SMIF pod opener and wafer transfer machine (far left).

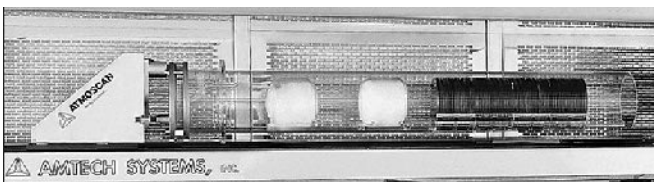
L-300

The L-300 system (at right), the latest addition to Amtech's automation line, was designed for fabrication houses with older diffusion equipment where a load station is not used. This system allows basic automation to be used on equipment that was entirely manually loaded in the past.



E-300

Amtech's most cost effective robotic product is the patented E-300. This product is most suitable for lower cost semiconductor devices, such as diodes and power management chips. The E-300 operates like an elevator and is generally used to raise boats loaded with up to 300 wafers to the upper reactor chambers of a diffusion furnace.



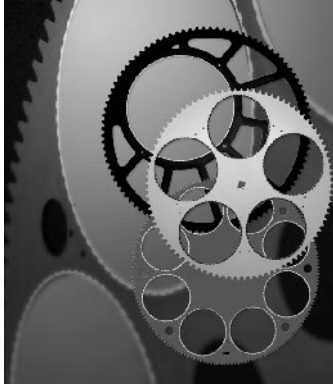
ATMOSCAN®

(Left) The Company's initial entrée into diffusion equipment was the patented ATMOSCAN®, a specially designed cantilevered diffusion processing tube that is injected with an inert gas to protect the wafers from ambient oxygen, moisture, and particles. It further protects the wafers from sudden temperature change, as

they are unloaded from the furnace chamber. The ATMOSCAN® was instrumental in the initial development of the Company's worldwide distribution channel.

WAFER POLISHING PRODUCTS

Amtech also designs, manufactures and sells products used in the production of semiconductor silicon wafers and other flat substrate materials. This line currently consists of consumable polishing supplies such as wafer carriers, polishing templates and machine parts, and double-sided precision lapping and polishing machines sold under the P.R. Hoffman brand. Typical applications requiring these products include semiconductor silicon wafers, alternative semiconductor substrate materials, computer disk substrates, ceramic components for pagers and other wireless communication devices and optical lens, filters, and electro-optical components. The Company's wafer polishing products are designed to process flat substrate materials to exact tolerances of thickness, flatness, parallelism and surface finish.

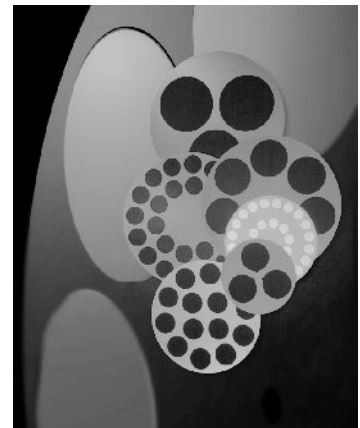


INSERT CARRIERS / CARRIERS

Carriers are work holders where wafers are nested during the lapping and polishing processes. The Company produces carriers for its line of lapping and polishing machines as well as for machines made by its competitors. These custom carriers are sold in a variety of sizes, configurations and materials, and are generally tailored for specific applications. Insert carriers (shown at left) account for a significant percentage of total carrier sales. These specialized carriers provide the advantages of steel carriers, such as durability and rigidity, and are manufactured to precise dimensions. The plastic insert reduces the potential for damage to the edges of sensitive materials, such as large silicon semiconductor wafers, and is used to improve wafer quality and flatness. Pictured: Assorted Insert Carrier styles including the newest for 300 mm wafer processing.

SEMICONDUCTOR POLISHING TEMPLATES

Amtech's semiconductor polishing templates (at right) are used for single-sided polishing of semiconductor wafers. The polishing templates are customized for specific applications and are manufactured to exacting tolerances. The use of alternative substrate materials in the telecommunications industry and substrates used for blue and white LED's have expanded the market for this product.



PLATES, GEARS, WEAR ITEMS and OTHER PARTS

Lapping and polishing processes involve abrasive technology, which leads to wear of carriers, plates, gears and other machine components. The Company produces and sells a wide assortment of wear items for its own and competing machines. Approximately eighty percent (80%) of the machine parts used are fabricated by Amtech. In addition to producing standard off-the-shelf parts, the Company has the ability to produce highly customized parts.



DOUBLE-SIDED LAPPING AND POLISHING MACHINES

The polishing process is used to change the surface characteristics of substrate materials like silicon wafers. Polishing is a complex science, often involving multiple steps, each at a specified set of process parameters such as polishing speed, pressure, time and temperature. Polishing improves the flatness (planarity), smoothness and optical properties of the substrate's surfaces. Lapping processes are similar to polishing, except that no polishing pad is used and the work piece is processed using an abrasive liquid (slurry) that is applied to a cast-iron lapping wheel. Lapping results in higher removal rates than polishing, but produces rougher surface finishes. Dimensional tolerance, surface finish, quantity of material to be removed, along with production rates required and cost of operation are the primary variables considered in the determination of the best process for a specific application. Pictured: The Model 5400, Amtech's newest **servo RS** precision double-sided, planetary, lapping and polishing machine, capable of processing large diameter substrates up to 300mm to world class standards. The Company also produces **servo RS** Models 3100, 1900, and 1500, as well as smaller machines, which are capable of processing smaller wafers and precision optics.

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

FORM 10-K

(Mark One)

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

For the fiscal year ended: September 30, 2005

OR

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

For the transition period from _____ TO _____

Commission File Number: 0-11412

AMTECH SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Arizona

(State or other jurisdiction of
incorporation or organization)

86-0411215

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

131 South Clark Drive, Tempe, Arizona

(Address of principal executive offices)

85281

(Zip Code)

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

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

**Securities registered pursuant to Section 12(g) of the Act:
Common Stock, \$0.01 Par Value**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act.

Yes ☐ No ☒

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

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

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12(b)(2)). Yes ☐ No ☒

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

As of March 31, 2005, the aggregate market value of the voting stock held by non-affiliates of the registrant was approximately \$8,521,000, based upon the closing sales price reported by the NASDAQ National Market® on that date.

As of December 15, 2005, the registrant had outstanding 2,715,221 shares of Common Stock, \$0.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Definitive Proxy Statement related to the registrant's 2006 Annual Meeting of Shareholders, which Proxy Statement will be filed under the Securities Exchange Act of 1934, as amended, within 120 days of the end of the registrant's fiscal year ended September 30, 2005, are incorporated by reference into Part III of this Form 10-K.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES

Table of Contents

Part I

Item 1.	Business	1
Item 1A.	Risk Factors	11
Item 1B.	Unresolved Staff Comments	18
Item 2.	Properties	18
Item 3.	Legal Proceedings	19
Item 4.	Submission of Matters to a Vote of Security Holders	19

Part II

Item 5.	Market for Registrant's Common Equity and Related Stockholder Matters	19
Item 6.	Selected Financial Data	21
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	22
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk	32
Item 8.	Financial Statements and Supplementary Data	34
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	55
Item 9A.	Controls and Procedures	55
Item 9B.	Other Information	55

Part III

Item 10.	Directors and Executive Officers of the Registrant	55
Item 11.	Executive Compensation	55
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Transactions	55
Item 13.	Certain Relationships and Related Transactions	55
Item 14.	Principal Accounting Fees and Services	56

Part IV

Item 15.	Exhibits and Financial Statement Schedules	56
Signatures	57
Power of Attorney	57

FORWARD-LOOKING STATEMENTS

Certain information contained or incorporated by reference in this Annual Report on Form 10-K is forward-looking in nature. All statements included or incorporated by reference in this Annual Report on Form 10-K, or made by management of Amtech Systems, Inc. and its subsidiaries (“Amtech”), other than statements of historical fact, are hereby identified as “forward-looking statements” (as such term is defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended). Examples of forward-looking statements include statements regarding Amtech’s future financial results, operating results, business strategies, projected costs, products under development, competitive positions and plans and objectives of the Company and its management for future operations. In some cases, forward-looking statements can be identified by terminology such as “may,” “will,” “should,” “would,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue,” or the negative of these terms or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in the section entitled “ITEM 1A. RISK FACTORS” These and many other factors could affect Amtech’s future operating results and financial condition, and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Amtech or on its behalf. Unless noted otherwise, all references to a year apply to Amtech’s fiscal year, which ends on September 30th.

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

PART I

ITEM 1. BUSINESS

Amtech Systems, Inc. (“Amtech” or the “Company”) was incorporated in Arizona in October 1981, under the name Quartz Engineering & Materials, Inc., and changed to its present name in 1987. Amtech also conducts operations through three wholly-owned subsidiaries, Tempress Systems, Inc., a Texas corporation with all of its operations in the Netherlands, acquired in October 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”).

We operate in two segments. Our semiconductor equipment segment is a leading supplier of horizontal diffusion furnace systems, including related automation, parts and services, to manufacturers of semiconductor integrated circuits (or chips), solar cells, silicon wafers and MEMS (microelectromechanical systems). Semiconductor chips are used by our customers in their own products or sold to OEM’s (original equipment manufacturers) e.g. manufacturers of consumer electronics. These chips are key components in most electronic products for telecommunications (especially wireless communications), computers and consumer electronics and are also used to add functionality to, or improve the performance of, a wide range of existing products, such as automobiles. This segment also sells to research institutes and universities. In addition, our semiconductor equipment segment provides manufacturing support services, including wet and dry cleaning of semiconductor machine processing parts, to one of our customers. This segment is comprised of Amtech Systems, Inc., Tempress Systems and Bruce Technologies.

Our polishing supplies and equipment segment is a leading supplier of insert carriers to manufacturers of silicon wafers. Silicon wafers are the raw material used in the fabrication of semiconductor chips. The polishing segment also manufactures polishing templates, steel carriers and double-sided polishing and lapping machines to fabricators of optics, quartz, ceramics and metal parts, and to manufacturers of medical equipment components. Our carriers and templates are consumed in the final steps of manufacturing silicon wafers. This segment is comprised of P.R. Hoffman Machine Products, Inc.

For information regarding revenue, operating profit or loss and identifiable assets attributable to each of these two business segments, see Note 10 of the Notes to Consolidated Financial Statements included herein and Item 7 of this annual report.

We serve a niche market in industries that experience on going technological advances, and which are very cyclical. As a result, our future profitability and growth depends on our ability to develop or acquire and market profitable improved or new products, and on our ability to adapt to cyclical trends.

GROWTH STRATEGY

Our strategy for growing revenue and operating profit is to develop improved or new products and services that satisfy our targeted markets, to further penetrate these and new markets with existing and new products and to acquire additional products through strategic acquisitions. We categorize these growth strategies as internal growth and acquisition growth.

Internal Growth. Our strategy for internal growth, sometimes referred to as organic growth, includes adding new markets, new or improved products and new services. During 2003, after considerable consultation with a customer, our semiconductor equipment segment received an order for a new small batch vertical furnace, which is subject to customer acceptance. 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. This system is expected to have the same process capability as other vertical furnaces in the marketplace, but with less complex automation and a lower cost than that of our competitors. The market for vertical furnaces is much larger than any of the other markets we currently serve. However, we intend to target research and development and other niche applications in the vertical furnace market first, since the competition in vertical furnaces is fierce and our competitors are much larger with substantially greater financial resources, processing knowledge and advanced technology than Amtech. In the third and fourth quarters of fiscal 2005, we shipped our first two small batch vertical furnaces, which were developed internally, with the cooperation of a large semiconductor manufacturer. The large installed customer base of Bruce Technologies, Inc., which was acquired in 2004, increases the market to which the Company can sell its new or existing automation products and its proposed small batch vertical furnace.

One of the first new markets penetrated by our semiconductor equipment segment is the solar cell industry. Due to higher energy costs, we have received increased orders from the solar cell industry in recent months. We began providing a service, contract semiconductor manufacturing support, in the fourth quarter of 1997, and in 2004 and 2005 expanded the services provided and revenues generated by these services. Revenue from manufacturing support services were 5% of sales in 2005. In 2000, we began obtaining orders for semiconductor production equipment from manufacturers of MEMS (microelectromechanical system) using nanotechnology. While MEMS manufacturers are not growing as previously expected, this proved to be a significant new market for us in 2000 and 2001 and we expanded our position in this market with the 2004 acquisition of Bruce Technologies from Kokusai Semiconductor Corporation (“Kokusai”).

Our products also include the S-300 and E-300 models of automation introduced in July 2000, which were a significant source of sales in 2001 and 2002. Other new products, which we began shipping in 2002, include 300mm diffusion furnaces sold to wafer manufacturers and related automation and S-300 models with cassette-to-cassette capability, a SECS II Gem (semiconductor equipment communications standard with level II documentation and incorporating the general equipment model) interface to a customer’s factory automation and an interface to third party SMIF (standard mechanical interface) pod openers. The introduction of new products in 2002 helped our semiconductor equipment segment avoid the severe revenue decline experienced by most of our peers in 2002. We expect these products to generate increased sales and profits in the future as demand increases.

During 2003, our polishing supplies segment received a customer order for a double-sided lapping and polishing machine with a larger capacity than our previous machines. This machine is driven by servo motors, rather than the hydraulics used in our then existing largest machine. P.R. Hoffman completed the design and manufacture of this machine, Model 5400 Servo, in 2003, and it was shipped and accepted by the customer in 2004. The Model 5400 is our first lapping and polishing machine capable of processing parts up to 19.5 inches in diameter; has higher capacities for smaller parts; and is equipped with a Windows™ touch-screen interface to a programmable controller for flexible multi-step control of speeds and pressure, optional thickness control, and crash protection. The Model 5400 offers very high precision for a large double-sided planetary machine and is especially suited to thin and fragile substrates. This design uses servo motors to precisely control the smooth, quiet, three-way planetary motions as well as precise, completely variable control of downward force ranging from as little as 24 pounds to as much as 1½ tons.

Acquisition Growth. In fiscal year 1995, we acquired certain assets of the former Tempress, B.V. and hired Tempress, B.V.'s former engineers to develop our first models of the Tempress® horizontal diffusion furnaces for production in The Netherlands. On July 1, 1997, we acquired substantially all of the assets of P.R. Hoffman Machine Products Corporation. 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 and to target new customers. On July 1, 2004, we acquired certain semiconductor horizontal diffusion furnace operations, product line and other assets from Kokusai and its affiliate Kokusai Electric Europe, GmbH, which we continue to market under the name, Bruce Technologies. Bruce Technologies has a large installed base, including several large semiconductor fabricators. We continue to evaluate potential acquisition candidates that will either increase our existing market share or expand the number of front-end semiconductor processes addressed by our products.

INDUSTRY

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

Although the semiconductor market has experienced significant growth over the past decade, it remains cyclical by nature, characterized by short-term periods of either under or over supply for most semiconductors, including microprocessors, memory, power management chips, DSP (digital signal processing) 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 down turns in 2001, 2002 and the first half of 2003, which resulted in a decline in revenue for both chip fabricators and most semiconductor equipment manufacturers. The industry began to rebound from this downturn during the later part of 2003. As this industry rebound developed in 2004, it became clear that most of the increased spending was by new semiconductor fabs utilizing 300mm technologies, a market not directly served by the Company. Only wafer manufacturers use our 300mm products, including a diffusion furnace, automation, and insert carriers. As a result, we did not initially benefit from the 2004 rebound, i.e. our 2004 orders were slightly lower than in 2003. However, in 2005 our order bookings did rebound to \$35 million, compared to \$19 million in 2004 and our previous record of \$30 million in fiscal 2000. The fact that orders for Bruce Technologies were included for all of fiscal 2005, compared to one quarter in 2004, and increased demand from the solar cell industry contributed to the rebound in orders.

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 fabricated on a silicon wafer substrate and are part of the circuitry or electronic components of many of the aforementioned products.

Most semiconductor chips are built on a base of silicon, called a wafer, and include multiple layers of wiring that connect a variety of circuit components, such as transistors and other structures. 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) pulling molten silicon to form an ingot; (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) insulating or conducting layers are deposited on the wafer surface, which sometimes is

accomplished in a diffusion furnace via a chemical reaction called chemical vapor deposition (“CVD”); (7) a photosensitive material, called photoresist, is spread over and then baked on the wafer; (8) the wafer is then exposed to light directed through a mask with circuit patterns; (9) the wafer is then placed in a chemical solution that removes the soluble portion of the photoresist, leaving only the desired pattern; (10) reactive gases then etch away the exposed areas to create a dimensional pattern on the wafer surface; (11) ions are driven into the exposed areas of the patterned wafer to create electrically charged conductive regions; and (12) the wafer then goes through a high temperature annealing 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 (6) 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 step (3) and our semiconductor equipment segment’s products may be used in steps (5), (6) and (12). A part of the Company’s growth strategy is to increase the number of process steps it can serve by acquiring additional product lines.

SEMICONDUCTOR EQUIPMENT SEGMENT PRODUCTS

The semiconductor manufacturing equipment segment includes furnace and furnace automation products which are used in the oxidation, chemical vapor deposition (CVD), phosphorus tetrachloride doping (POLC3) and annealing steps of fabricating integrated circuits on silicon wafers. Our furnace and automation equipment is manufactured by our Arizona, Massachusetts and Netherlands operations. The following paragraphs describe the products that comprise our semiconductor equipment segment:

Horizontal Diffusion Furnaces. Through our subsidiaries, Tempress Systems Inc. and our Bruce Technologies division, we produce and sell horizontal diffusion and conveyor furnace systems. Our diffusion furnaces currently address several deposition steps in the semiconductor manufacturing process, including oxidation/diffusion and low-pressure chemical vapor deposition (“LPCVD”), POLC₃ doping and annealing. The LPCVD step consists of performing CVD under high temperature, low-pressure conditions to deposit insulating or conductive layers, primarily on wafers up to 200mm in size. Diffusion furnaces also are used in certain high and ultra-high temperature processes in the manufacture of optical components of high-speed switches used in broadband fiber optic telecommunications networks.

Our diffusion 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 are often customized to meet the requirements of a customer’s particular processes. The horizontal diffusion furnaces utilize existing industry technology and are sold primarily to customers who do not require the advanced automation of, or cannot justify the significantly higher expense of, vertical diffusion furnaces for some or all of their diffusion processes. In 2002, we began shipping models of the Tempress® diffusion furnace capable of processing 300mm wafers, with the initial customers being semiconductor wafer manufacturers, and we now have models capable of processing all currently existing wafer sizes.

Tempress Systems Inc. also produces conveyor furnace systems used to produce thick films for the electronics industry. Conveyor furnace systems 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.

New Small Batch Vertical Furnace. During 2003, after considerable consultation with a customer, our semiconductor equipment segment received an order for a new small batch vertical furnace, which is subject to customer acceptance. 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. This system is expected to have the same process capability as other vertical furnaces in the marketplace, but with less complex automation and a lower cost than that of our competitors. The market for vertical furnaces is much larger than the total of all the other markets we currently serve. However, we intend to target research and development and other niche applications first, since the competition in vertical furnaces is fierce and our competitors are much larger in the vertical furnace market and have substantially greater financial resources, processing knowledge and advanced technology than Amtech.

Processing/Robotic Equipment. Our processing and robotic equipment consists of several products that either automate the loading of horizontal diffusion furnaces or improve the processing characteristics of such furnaces. Wherever possible, our processing and robotic products are sold in various combinations with either our Tempress® or Bruce Technologies® diffusion furnaces in order to maximize sales of these products and expand the market for our diffusion furnaces. These products also are sold to customers as retrofits to most all brands of horizontal diffusion furnaces.

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. The following paragraphs describe our automation products.

E-300. Our most cost effective robotic product is the E-300. This product is most suitable for the lowest cost semiconductor devices, such as diodes and power management chips. The E-300 operates like an elevator and generally is used to raise boats loaded with up to 300 wafers to one or both of the upper two reactor chambers of a diffusion furnace. There the operator uses a hand held tool to lift the wafer boat off the E-300 and to either place them directly on a cantilever paddle system, into an Amtech Atmoscan®, or onto an IBAL Trolley, which then places the wafers on the paddle or Atmoscan®. The E-300 can be used in conjunction with all wafer sizes, however, a batch of 300mm wafers weigh more than what an operator can reasonably handle.

S-300. The 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 fabricated in a horizontal furnace, but is not compatible with furnace reactor chambers where the process requires an Atmoscan®. During 2002, we began shipping S-300 models for 300mm wafers and other models with cassette-to-cassette capability, a SECS II Gem interface to the customer's factory automation and an interface to third party SMIF pod openers. We believe that customers will view the SECS II Gem interface to their factory automation as a means to reduce scrap that is sometimes caused by an operator loading wafers into the wrong process chamber. The S-300 can now be used in conjunction with all wafer sizes, and are particularly well suited for manufacturers of 300mm wafers.

IBAL. Our Individual Boats with Automated Loading ("IBAL") automation system is a patented integrated automation system composed of four modules comprised of hardware and software. While we continue to sell parts and provide other support to the installed base of this product and this is the only automation product on the market that can load furnace reactors equipped with our Atmoscan® product, this product has become technologically obsolete, resulting in a write-off of \$0.1 million of inventory in fiscal 2005.

Atmoscan® and Other Cantilevered Processing Systems. Atmoscan® 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 of the wafers during the gaseous and heating/cooling process, thereby increasing yields and decreasing manufacturing costs and other economies in the manufacturing process.

We also designed and sell an open cantilever paddle system, the type of loader which remains the most commonly used in the semiconductor industry for loading wafers into horizontal furnaces. Prior to the introduction of the Atmoscan®, our alternative to the open cantilevered processing system, similar systems were used by the industry.

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. These products are manufactured by our P.R. Hoffman operation in Pennsylvania and are described below.

Carriers. Carriers are work holders into which silicon wafers or other materials are inserted for the purpose of holding them securely in place during lapping and polishing processes. We produce carriers for our line of lapping and polishing machines, as well as those machines sold by our competitors. Substantially all of the carriers we produce are customized for specific applications. A very significant category of our steel carriers, referred to as insert 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 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 such materials, because they provide the advantages of steel carriers while reducing the potential for damage to the edges of sensitive materials such as large semiconductor wafers, which are becoming more standard in the industry. Our insert carriers are used for double-sided lapping or polishing of semiconductor wafers up to 300mm in diameter.

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 all 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 LED's.

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.

Lapping machines process parts using an abrasive slurry and cast iron plates. The material to be processed is positioned in carriers, which are then driven with a planetary motion between the top and bottom plates. The planetary action of the lapping machines simultaneously removes equal amounts of material from both sides of the material being processed. While polishing machines are similar to the lapping machines, polishing is achieved by using finer free abrasive slurry and plates equipped with a polishing pad material. Depending on the process, the wafers are held in place in the pockets of a carrier, for double-sided processing, or templates or wax mountings for single-sided processing. We do not manufacture or sell single-sided polishing machines or wax mountings. The polishing process is used to improve the characteristics of the surfaces of silicon wafers and other materials. We also manufacture and sell repair parts for our line of lapping and polishing machines.

Large Capacity Servo Series of Lapping and Polishing Machines. During 2003, our polishing supplies segment received a customer order for a double-sided lapping and polishing machine with a larger capacity, compared to our previous machines, and driven by servo motors, rather than the hydraulics used in our then existing largest machine. P.R. Hoffman completed the design and manufacture of this machine, Model 5400 Servo, in 2003, and it was shipped and accepted by the customer in 2004. The Model 5400 is our first lapping and polishing machine capable of processing parts up to 19.5 inches in diameter, including 300mm wafers; has higher capacities for smaller parts; and is equipped with a Windows™ Touch-screen interface to a programmable controller for flexible multi-step control of speeds and pressure, optional thickness control, and crash protection. The 5400 model offers very high precision for a large double-sided planetary machine and is especially suited to thin and fragile substrates. This design uses servo motors to precisely control the smooth, quiet, three-way planetary motions as well as precise, completely variable control of downward force ranging from as little as 24 pounds to as much as 1½ tons. A second system was delivered in 2005.

Plates, Gears, Wear Items and Other Parts. Since lapping machinery involves abrasive slurries, the plates, gears and other machine parts are often exposed to a high degree of abrasion and wear. Accordingly, we produce a wide assortment of plates, gears, parts and wear items for our own machines as well as for machines manufactured by our competitors. In addition to producing standard off-the-shelf parts, we have the ability to produce highly customized parts.

MANUFACTURING, RAW MATERIALS AND SUPPLIERS

Our semiconductor equipment manufacturing activities consist primarily of engineering design, procurement, assembling various commercial and proprietary components into finished diffusion furnace systems in Heerde, The Netherlands and Billerica, Massachusetts, and into processing and robotic systems in Tempe, Arizona. Nearly all fabricated parts for the semiconductor equipment segment are purchased from local subcontractors. 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. In addition, certain parts for our automation products are fabricated in our machine shop. 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 the majority of the products in the polishing supplies segment are designed to customers' specifications, this segment's facility is equipped to perform a significantly higher percentage of the fabrication steps required in the manufacture 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, pad supplier (sole sourced from a Japanese company) and an adhesive manufacturer. Prior to the fourth quarter of 2004, the Company's laser-cutting of carriers was subcontracted to others. Since then we have purchased a state of the art 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 backlog increased to \$14.4 million as of September 30, 2005, from \$7.3 million at September 30, 2004. The orders included in our backlog are generally credit approved customer purchase orders expected to ship within the next twelve months. The 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, 2005 and 2004, respectively, includes \$1.0 million and \$0.7 million of open orders or deferred revenue on which we anticipate no gross margin.

RESEARCH, DEVELOPMENT AND ENGINEERING

The markets we serve are characterized by evolving industry standards and rapid technological change. To compete effectively in our markets, we must continually keep up with the pace of such change by improving our products and our process technologies and developing new technologies and products that compete effectively on the basis of price and performance and that adequately address current and future customer requirements. Historically, our early product development efforts were accomplished primarily through cooperative efforts with two key customers. 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 continue to be a significant element in our future development projects. During 2003, after considerable consultation with a customer, our semiconductor equipment segment received an order for a new small batch vertical furnace, which is subject to customer acceptance. 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. This system is expected to have the same process capability as other vertical furnaces in the marketplace, but with less complex automation and a lower cost than that of our competitors. Our first two small batch vertical furnaces were delivered in the third and fourth quarters of fiscal 2005. One of these systems was accepted by the customer in December 2005. We expect the other to be accepted by March 31, 2006; however, there can be no assurance that it will be accepted.

During 2003, our polishing supplies segment received a customer order for a double-sided lapping and polishing machine with a larger capacity, compared to our previous machines, and driven by servo motors, rather than the hydraulics used in our then existing largest machine. P.R. Hoffman completed the design and manufacture of this machine, Model 5400 Servo, in 2003, and it was shipped and accepted by the customer in 2004. The Model 5400 is our first lapping and polishing machine capable of processing parts up to 19.5 inches in diameter; has higher capacities for smaller parts; and is equipped with a Windows™ Touch-screen interface to a programmable controller for flexible multi-step control of speeds and pressure, optional thickness control, and crash protection. The 5400 model offers very high precision for a large double-sided planetary machine and is especially suited to thin and fragile substrates. This design uses servo motors to precisely control the smooth, quiet, three-way planetary motions as well as precise, completely variable control of downward force ranging from as little as 24 pounds to as much as 1½ tons.

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 research and development costs. Our approach to such expenditures has allowed us to produce a number of new products while spending amounts that are generally modest in relation to most semiconductor equipment manufacturers. Our expenditures that have been accounted for as research and development were \$0.6 million (2.2% of revenues) in 2005, \$0.5 million (2.6% of revenues) in 2004 and \$0.7 million (3.6% of revenues) in 2003. 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 or each patent and license:

<u>Product</u>	<u>Country</u>	<u>Expiration Date or Pending Approval</u>
Photo CVD	United States	November 15, 2011
Proposed 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
IBAL Model S-300	France, Germany, Italy, The Netherlands, United Kingdom	Pending Approval
P. R. Hoffman Insert Carriers (*)	United States	July 2, 2006
Boat Transfer and Queuing Furnace Elevator and Method	United States	June 16, 2007
Wafer Handling Station	United States	March 5, 2006
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
Modular V-CVD Diffusion Furnace (**)	Canada	December 28, 2005
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.

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, an internet website, advertising in trade magazines and the distribution of product brochures. We also participate in trade shows, including Semicon West, Semicon Europa, Semicon Japan, Diskcon and one large optics show each year.

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. Our sales to distributors do not include a general right of return and returns are extremely rare. Distributors of the semiconductor equipment segment 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 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, type of customer or its creditworthiness and its country of domicile.

In 2005, net revenues were distributed among customers in different geographic regions as follows: North America 40% (including 39% in the United States), Asia 36% (including 13% in Taiwan) and Europe 24%. No customer represented greater than 10% of revenues during 2005. One customer represented 10% of net revenues during 2004. Two customers represented 15% and 12% of net revenues during 2003. For a more complete analysis of significant customers and sales to customers by geographic region, see Note 9 of the Notes to Consolidated Financial Statements included herein and Item 7 of this annual report. For information regarding revenue, operating profit or loss and identifiable assets attributable to each of our industry segments and financial information about foreign and domestic operations, see Note 10 of the Notes to Consolidated Financial Statements included herein and Item 7 of this annual report.

Our business is not seasonal in nature, but is cyclical based on the capital equipment investment patterns of semiconductor manufacturers. These expenditure patterns are based on many factors, including anticipated demand for integrated circuits, the development of new technologies and global and regional economic conditions.

COMPETITION

We compete in several distinct markets, including the semiconductor devices equipment market, the semiconductor wafer market, the solar cell and optical component equipment markets 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 Company's installed base provides some competitive advantage, as customers with a number of our systems can minimize training, spare parts inventory and other costs by acquiring similar equipment from us, and the Company is more likely to receive greater attention from existing customer contacts when it offers new products. VSLI Research Data indicate that the Bruce Technologies product line, acquired by Amtech in 2004, enjoyed a 42% share of the horizontal diffusion furnace installed base.

Our diffusion furnaces, robotic/processing equipment and double-sided lapping and polishing machines 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 Amtech. 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. Our diffusion furnaces compete against vertical furnaces on the high-end of the price spectrum. 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 focusing our sales and marketing efforts on the very large and stable middle 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 expect to gain marketing synergies and to be more competitive at the upper end of our targeted market. While we do not have repurchase obligations with our customers, 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, to be able to better defend the lower end of our targeted market. We have also 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 Chinese 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 "Management's Discussion and Analysis of Financial Condition and Results of Operations — Trends, Risks and Uncertainties" 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 are generally superior to those of our primary competitors in semiconductor applications, which include Mactronics and Koyo Thermo Systems Co. Ltd. We believe that patents on the key features of our automation products provide a competitive advantage. We expect our automation product competitors to seek to continually improve the design and performance of their products. There can be 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. 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. The target market for our automation products is customers who want to improve employee safety and reduce scrap. The acquisition of the Bruce Technologies product line has already provided increased sales opportunities and a new customer for our automation products through introductions to their installed based, which tend to be semiconductor fabricators with a large number of horizontal furnaces.

There are several processing systems and various configurations of existing manufacturing products that provide advantages similar to those that we believe the Atmoscan® provides to semiconductor manufacturers. Notwithstanding this competition, we believe that Atmoscan® provides 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.

We experience price competition for carriers, particularly insert 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 continually updating

our product line to keep pace with the rapid changes in our customers' requirements and by providing a higher level of customer service. During September 2004, we completed the installation and began producing steel carriers, including insert carriers, on a newly acquired state of the art 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 Peter Wolters, Speedfam, a division of Novellus, among others. We have been able to capture a small yet meaningful share of the semiconductor polishing template market, which Rodel, a division of Rohm and Haas, dominates with an estimated 90% market share. Our strategy is to seek out niche markets for templates and provide the highest level of customer support and lower total cost of ownership.

EMPLOYEES

At September 30, 2005, we employed 144 people. Of these employees, 19 were based at our corporate offices and manufacturing facility in Tempe, Arizona; 28 were employed at our manufacturing plant in Carlisle, Pennsylvania; 22 at our manufacturing plant in Billerica, Massachusetts; 50 at our facilities in and near Heerde, The Netherlands; and 25 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.

ITEM 1A. RISK FACTORS

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

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

The revenues of our semiconductor equipment segment, which accounts for approximately 75% of our consolidated revenues, 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 primarily because:

- we have experienced continued demand from manufacturers that do not require the more expensive vertical furnaces, such as from manufacturers of analog, power management, DSP and MEMS chips and micro-controllers used in a number of consumer applications, including wireless phones;
- China's significant investments in its semiconductor industry have resulted in increased sales of our horizontal furnaces there;
- certain larger equipment manufacturers have decided to de-emphasize their horizontal product line and we have acquired the Bruce Technologies product line, thereby allowing us to increase our market share;
- we are pursuing alternative markets, such as solar cell manufacturers and certain research and development facilities; and
- we believe that because of improvements in automation for horizontal diffusion furnaces, such as our robotic product line, and due to the significantly higher cost of vertical furnaces, horizontal diffusion furnaces continue to be an acceptable alternative to the vertical furnaces for certain devices.

However, to the extent that the trend to use vertical diffusion furnaces over horizontal diffusion furnaces continues, our revenues may decline and our corresponding ability to generate income may be adversely affected.

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:

1. global and regional economic conditions;
2. changes in capacity utilization and production volume of manufacturers of semiconductors, silicon wafers, solar cells and MEMS;
3. the shift of semiconductor production to Asia, where there often is increased price competition; and
4. 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 revenues, 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 revenues, as any change in demand is reflected immediately in orders booked, which are net of cancellations, while revenues tend to be recognized over multiple quarters as a result of procurement and production lead times and the deferral of certain revenues under our revenue recognition policies. Customer delivery schedules on large system orders can also add to this volatility.

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 revenues.

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. Changes in demand for our products have not significantly affected our factory utilization during the last three fiscal years.

We are dependent on key personnel for our business development, 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, as well as with our joint development partner for the new technology Asher, is substantially dependent on personal relations established by our CEO. Furthermore, our relationship with a major European customer that has been instrumental in the development of the small batch

vertical 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.

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. Most of our products, other than the Atmoscan® and products acquired in the P.R. Hoffman and Bruce Technologies' acquisitions were developed by our own personnel. We presently employ two engineers at our Tempe, Arizona plant, including one with a Ph.D. We employ eleven engineers, including two with Ph.D.'s, at our Netherlands operation. 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 Tempe. 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.

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 revenues 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.

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 December 14, 2005, there were 2,715,221 shares of common stock outstanding and 540,000 shares

of convertible preferred stock, which are convertible into an equal number of shares of common stock. 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 stockholders 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 and certain other key employees have severance arrangements that require us to pay one times annual base salary (three times annual base salary in the case of Mr. Whang) 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.

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 the 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; have additional pending patent applications relating to some of our products and technologies; and license the right to manufacture certain products under patents owned by third parties, some of which are on a non-exclusive basis. 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. The owner of the patent from whom we license the right to manufacture insert carriers may grant licenses to our competitors, diminishing or eliminating any competitive advantage we may have. 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.

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, 2005, receivables from two customers comprised 14% and 10% 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 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. As of September 30, 2005 our backlog includes a multi-system order totaling \$5.1 million, or approximately 35% of the total backlog and equivalent to 18% of our 2005 consolidated revenue. Our financial position and results of operations could be materially 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. 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 revenue will be recognized.

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

During 2005, 60% of our sales were made to customers outside of North America as follows:

- Asia (including Korea, People's Republic of China, Taiwan, Japan, Singapore, Indonesia, Malaysia, Australia and India) — 36% (includes 16% from Taiwan)
- Europe (including 1% or less to Israel and Africa) — 24%

Because of our significant dependence on revenues 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 a loss of \$0.1 million in both 2005 and 2004 and gains of \$0.1 million during 2003, 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, Tempres Systems, has conducted its operations in the Netherlands since 1995 and during 2005 we established a subsidiary in Germany to conduct the European sales of our Bruce Technologies product line.

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 revenues and costs.

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, revenues, 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 revenues.

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. We make acquisitions of, or significant investments in, other businesses with synergistic products, services and technologies. 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 stockholders, 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.

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 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 systems exceeds \$1 million, the delay in the shipment of even a single system could cause significant variations in quarterly revenues, 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.

On September 13, 2000, we issued 383,000 shares of common stock, and warrants to purchase an aggregate of up to 59,300 shares of common stock, in a private placement in which we raised net proceeds of \$4.6 million. In April 2005 we issued 8% convertible preferred stock in a private placement in which we received net proceeds of \$1.9 million. The proceeds from those offerings have been used to fund our growth initiatives and improve our liquidity. We believe that current cash balances, the existing small line of credit, cash flows generated from our operations and additional available financing will provide adequate working capital for at least the next twelve months. However, additional financing is expected to be required for further implementation of our growth plans. Furthermore, we expect our liquidity will shrink during the execution of the \$5.1 million order discussed above and until we receive the initial payments in April 2006. 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.

If our securities become ineligible for trading on the NASDAQ system, they might be subject to Rule 15c-2 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 National Market®, continued listing on NASDAQ will depend on our ability to meet certain eligibility requirements established from time to time by the NASDAQ National Market® or the NASDAQ SmallCap 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.

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 of the Public Company Accounting Oversight Board ("PCAOB") 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, as they are interpreted by the PCAOB, no later than September 30, 2007. Estimates of complying with these requirements approximate \$0.5 million in the first year and fifty percent of that amount in each ensuing year. 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.

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

The 2001 terrorist attacks in the United States, as well as events occurring in response or connection to them, including, without limitation, 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 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, but not limited to, 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.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None

ITEM 2. PROPERTIES

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

<u>Location</u>	<u>Use</u>	<u>Size</u>	<u>Monthly Rent</u>	<u>Lease Expiration</u>
<i>Semiconductor Equipment Segment</i>				
Tempe, AZ	Corporate & Mfg.	15,700 sf	\$ 8,871	11/30/2007
Austin, TX	Mfg Support	(1)	(1)	(1)
Billerica, MA	Office, Warehouse & Mfg.	12,500 sf	\$ 7,292 (4)	3/31/2010
Billerica, MA (2)	Mfg.	17,000 sf	\$ 4,250	9/30/2006
Heerde, The Netherlands	Office & Mfg.	9,900 sf	Owned	N/A
Heerde, The Netherlands	Warehouse & Mfg.	10,000 sf	\$ 8,125	7/31/2008
<i>Polishing Supplies Segment</i>				
Carlisle, PA	Office & Mfg.	21,740 sf	\$ 11,502	6/30/2006 (3)

(1) Services are performed in customer's facilities.

(2) This additional space was leased in October, 2005 for manufacturing of our own heating elements.

(3) We have an option to renew for three additional terms of one year each. We intend to exercise our renewal options.

(4) Increases to \$7,552 per month in April, 2007 and to \$7,813 in April 2008.

ITEM 3. LEGAL PROCEEDINGS

None.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

At our annual shareholders' meeting, which was held on July 8, 2005, all nominees standing for election as directors were elected to serve for one year terms or until their successors are elected and qualified. The following chart indicates the number of votes cast for and the number of votes withheld with respect to each nominee for director:

Proposal One (1)

<u>Nominee</u>	<u>For</u>	<u>Withheld</u>
Jong S. Whang (2)	2,361,385	76,625
Robert T. Hass (2)	2,350,539	87,411
Robert F. King (2)	2,397,648	40,680
Robert M. Averick (3)	540,000	—

- (1) Abstentions were not counted in the election of the directors.
(2) Elected by the holders of common stock.
(3) Elected by the holders of preferred stock.

The proposal to approve an amendment to the Non-Employee Directors Stock Option Plan (the "Amendment") was also approved at the annual shareholders' meeting. The following chart indicates the number of votes cast for and against the Amendment, and the number of abstentions and broker non-votes with respect to the Amendment:

Proposal Two

For	410,613
Against	216,581
Abstain	1,628
Broker Non-Votes	1,809,274

- (1) Abstentions were counted as a vote against the Amendment.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

MARKET INFORMATION

Our common stock, par value \$0.01 per share ("Common Stock"), began trading on the NASDAQ National Market®, under the symbol "ASYS," on April 18, 2001. From 1983 to 2001, our Common Stock was traded on the NASDAQ SmallCap Market. The following table sets forth the high and low bid price at which the shares of our Common Stock traded for each quarter of 2005 and 2004, as reported by the NASDAQ National Market®.

	<u>Fiscal 2005</u>		<u>Fiscal 2004</u>	
	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>
First quarter	\$4.99	\$3.76	\$7.89	\$4.85
Second quarter.....	4.37	2.81	6.61	4.91
Third quarter	6.20	2.62	5.93	4.47
Fourth quarter	7.74	4.61	5.20	4.07

HOLDERS

As of December 9, 2005, there were 965 stockholders of record of our Common Stock. Based upon a recent survey of brokers, we estimate there were approximately an additional 2,150 beneficial stockholders who held shares in brokerage or other investment accounts as of that date.

DIVIDENDS

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

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table sets forth certain information, as of September 30, 2005, concerning outstanding options and rights to purchase Common Stock granted to participants in all of the Company's equity compensation plans and the number of shares of Common Stock remaining available for issuance under such equity compensation plans.

	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
<u>Plan Category</u>			
Equity compensation plans approved by security holders (1)	458,206	4.75	258,211
Equity compensation plans not approved by security holders (2)	<u>70,000</u>	4.18	<u>—</u>
Total	<u>528,206</u>		<u>258,211</u>

- (1) Represents the 1995 and 1998 Employee Stock Option Plans and the Non-Employee Director Stock Option Plan and any respective amendments thereto.
- (2) Represents (i) 10,000 shares of common stock issuable upon exercise of options granted to non-employee directors under stock purchase agreements prior to the 1996 establishment of the Non-Employee Director Stock Option Plan, with an exercise price of \$1.26; and (ii) 60,000 shares of common stock issuable upon exercise of a warrant issued to the placement agent in connection with the private placement in April 2005, having an exercise price of \$4.67. The options and warrants under these plans are fully vested.

ITEM 6. SELECTED FINANCIAL DATA

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

	Year Ended September 30,				
	2005(1)	2004(1)	2003	2002	2001
	(In thousands, except percentages, per share amounts and number of employees)				
Operating Data:					
Net revenues	\$27,899	\$19,299	\$19,434	\$20,533	\$22,852
Gross profit (2)	\$ 7,668	\$ 3,949	\$ 4,835	\$ 4,997	\$ 7,085
Gross profit % (2)	27.5%	20.5%	24.9%	24.3%	31.0%
Operating income (loss)	\$ (174)	\$ (2,105)	\$ (245)	\$ 77	\$ 1,577
Income (loss) before cumulative effect of change in accounting principle	\$ (259)	\$ (3,165)	\$ (100)	\$ 118	\$ 1,153
Cumulative effect of change in accounting principle, net of tax (3)	\$ —	\$ —	\$ —	\$ —	\$ (690)
Net income (loss)	\$ (259)	\$ (3,165)	\$ (100)	\$ 118	\$ 463
Dividends on convertible preferred stock ...	\$ (76)	\$ —	\$ —	\$ —	\$ —
Net income (loss) attributable to common ..	\$ (335)	\$ (3,165)	\$ (100)	\$ 118	\$ 463
Earnings (loss) per share:					
Basic:					
Income (loss) before cumulative effect of change in accounting principle	\$ (0.12)	\$ (1.17)	\$ (0.04)	\$ 0.04	\$ 0.43
Cumulative effect of change in accounting principle, net of tax (3)	—	—	—	—	(0.26)
Basic earnings (loss) per share	\$ (0.12)	\$ (1.17)	\$ (0.04)	\$ 0.04	\$ 0.17
Diluted:					
Income (loss) before cumulative effect of change in accounting principle	\$ (0.12)	\$ (1.17)	\$ (0.04)	\$ 0.04	\$ 0.41
Cumulative effect of change in accounting principle, net of tax (3)	—	—	—	—	(0.25)
Diluted earnings (loss) per share	\$ (0.12)	\$ (1.17)	\$ (0.04)	\$ 0.04	\$ 0.16
Order backlog (4)	\$14,388	\$ 7,300	\$ 7,645	\$ 6,499	\$ 9,479
Balance Sheet Data:					
Cash and cash equivalents	\$ 3,309	\$ 1,674	\$ 7,453	\$ 8,046	\$ 5,998
Working capital	\$ 9,966	\$ 7,735	\$12,727	\$12,166	\$11,620
Current ratio	3.7:1	2.7:1	4.9:1	5.5:1	3.4:1
Total assets	\$17,701	\$16,660	\$18,399	\$17,393	\$18,571
Total current liabilities	\$ 3,752	\$ 4,531	\$ 3,259	\$ 2,722	\$ 4,575
Long-term obligations	\$ 741	\$ 474	\$ 640	\$ 459	\$ 411
Convertible preferred stock	\$ 1,935	\$ —	\$ —	\$ —	\$ —
Total stockholders' equity	\$13,209	\$11,655	\$14,499	\$14,212	\$13,584
Number of full-time equivalent employees ..	144	132	106	111	111

- (1) Amounts include results of operations of the Bruce Technologies horizontal furnace product line of Kokusai (acquired July 1, 2004) for the periods subsequent to the acquisition.
- (2) At times, the effect of deferring the amount of the holdback pursuant to our revenue recognition policy rather than the fair market value of items not delivered, has been to defer in one period a disproportionate amount of gross margin between periods relative to the related deferred revenue and recognize it in the next period.

- (3) Amount gives effect to a non-cash charge of \$690,211, after reduction for income tax benefits of \$410,000, or (\$0.26) per basic share, recorded to reflect the cumulative effect of the accounting change as of October 1, 2000, related to the adoption of Securities and Exchange Commission ("SEC") Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements."
- (4) The backlog as of September 30, 2005, 2004 and 2003, respectively, includes \$1.0 million, \$0.7 million and \$0.7 million of open orders or deferred revenue on which we anticipate no gross margin.

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

Introduction

Management's Discussion and Analysis (MD&A) is intended to facilitate an understanding of our business and results of operations. This MD&A should be read in conjunction with our Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements included elsewhere in this report. MD&A consists of the following sections:

- Overview: a summary of our business and opportunities.
- Results of Operations: a discussion of operating results.
- Financial Condition, 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. Our semiconductor equipment segment is a leading supplier of horizontal diffusion furnace systems, including related automation, parts and services, to the semiconductor, MEMS (microelectromechanical system), silicon wafer and solar cell industries.

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

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

During the second half of fiscal 2005, we shipped our first two small batch vertical furnace systems. A significant loss on the first of these systems was recorded primarily in fiscal 2004. Nearly an equal amount of revenue and costs related to these two systems have been deferred until acceptance, which we expect to occur in fiscal 2006.

We have increased the refurbishing and resale of our own brands of used diffusion furnaces in order to remain competitive in the entire market for these products. While we do not sell equipment with a repurchase obligation and thus have no repurchase obligations with our customers, we sometimes purchase used equipment for inventory on a strategic, opportunistic basis, to allow us to offer customers an alternative when price is the primary consideration. We generally limit such advance purchases to available, well-maintained, used equipment that has been or shortly will be taken out of production. When customers decide to relocate their production, we offer to decommission their furnaces and reinstall them in the new facility.

Results of Operations

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

	Years Ended September 30,		
	2005	2004	2003
Net revenues	100.0%	100.0%	100.0%
Cost of sales	72.5%	79.5%	75.1%
Gross margin	27.5%	20.5%	24.9%
Selling, general and administrative	25.7%	28.6%	22.8%
Research and development	2.2%	2.8%	3.4%
Operating income (loss)	(.5)%	(10.9)%	(1.3)%
Interest income (expense), net	(.2)%	.0%	.2%
Income (loss) before income taxes	(.6)%	(10.9)%	(1.1)%
Income tax (benefit)3%	5.5%	(.6)%
Net income (loss)	(.9)%	(16.4)%	(0.5)%

Fiscal 2005 compared to Fiscal 2004

The following table presents certain key highlights and the percentage change in the results of operations for the fiscal 2005 compared to fiscal 2004 (in thousands, except percentages). Due to the significant changes resulting from changes in deferred profit and from the acquisition of Bruce Technologies, the following table segregates these amounts. All other changes are segregated by segment in the table and are discussed below.

	Fiscal Year		Change in Deferred Profit	Bruce Acquis. Increase	Inc (decrease) From All Other			
	2005	2004			Increase (Decrease)	Percent Change	Polishing Segment	Semi-Equip Segment
Net revenues	\$27,899	\$19,299	\$ (65)	\$5,537	\$ 3,128	17%	\$1,147	\$ 1,981
Cost of sales	20,231	15,350	(1,003)	4,136	1,747	12%	398	1,349
Gross margin	7,668	3,949	938	1,401	1,381	35%	749	632
Gross margin percent	27%	20%		25%				
Selling, general and administrative .	7,180	5,522	—	1,238	420	8%	107	313
Research and development	627	532	—	—	95	18%	—	95
Operating income (loss)	(138)	(2,105)	938	163	865	NM	642	223
Interest income (expense), net	(36)	3	—	—	(39)	NM	—	(39)
Income (loss) before income taxes .	(174)	(2,101)	938	163	826	NM	642	184
Income tax provision (benefit)	85	1,064	319	55	(1,353)	-127%	257	(1,610)
Net income (loss)	\$ (259)	\$ (3,165)	\$ 619	\$ 108	\$ 2,180	NM	\$ 385	\$ 1,794

NM = Not meaningful.

Net Revenues — The following table reflects the increase in net revenues during 2005 as compared to 2004 (in thousands, except percentages):

	Years Ended September 30,			
	2005	2004	Increase	%
(In thousands of dollars)				
Semiconductor Equipment Segment	\$20,669	\$13,215	\$7,454	56%
Polishing Supplies Segment	7,231	6,084	1,147	19%
Net revenues	\$27,899	\$19,299	\$8,600	45%

Net revenues from Bruce Technologies products and services, acquired July 1, 2004, accounted for \$5.5 million, or 74%, of the increase in net revenues of the semiconductor equipment segment during fiscal 2005,

compared to fiscal 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.

Amtech's business was subject to cyclical industry conditions in fiscal 2003, 2004 and 2005. As a result of these conditions, there were significant fluctuations in quarterly new orders, shipments and revenue, both within and across years. The following table reflects trends in consolidated new orders⁽¹⁾, shipments and net revenues for each quarter during the current fiscal year and for our prior two fiscal years, 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 of our two business segments:

	Fiscal Quarter				Fiscal Year(3)	Semi-conductor Equipment Segment(1)(3)	Polishing Supplies Segment
	First	Second	Third	Fourth(3)			
(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	20,669	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
2003							
New orders (2)	\$2,165	\$6,477	\$ 7,498	\$ 3,027	\$19,167	\$13,495	\$5,672
Shipments	4,165	4,785	3,396	6,267	18,613	13,313	5,300
Net revenues	4,329	5,448	3,622	6,035	19,434	14,134	5,300
Ending backlog	5,748	6,777	10,653	7,645	7,645	6,473	1,172
Book-to-bill ratio	0.5:1	1.4:1	2.2:1	0.5:1	1.0:1	1.0:1	1.1:1

(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 margin to be realized.

Net new orders in fiscal 2005 increased to \$35.0 million, compared to \$19.0 million in 2004 and our previous record of \$30.0 million in fiscal 2000. 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, matching the previous record in the third quarter of fiscal 2000. Since we ended the year with a significantly larger backlog, we are expecting higher revenue in fiscal 2006.

Gross Margin — Our gross margin was \$7.7 million in fiscal 2005, an increase of 96% 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 revenues discussed above. However, improved profitability of those sales, as measured by the margins as a percent of revenue, also contributed to the increase in gross margin. Gross margin for 2005, as a percent of 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, is 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. While there was a small increase in the amount of revenue deferred during the year compared to fiscal 2004, there was very little deferred cost associated with the 2004 deferred revenue recognized in 2005. 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 financials statements. 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 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 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 \$1.6 million in fiscal 2005, or 29%, compared to fiscal 2004. The increase was primarily due to the Bruce Technologies acquisition which added \$1.2 million of SG&A. 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.

Operating Loss — Operating loss decreased significantly in fiscal 2005 to \$0.1 million, compared to a loss of \$2.1 million in fiscal 2004. As can be seen from the segmented income statement above, most of the improvement resulted from the polishing segment (\$0.6 million), resulting from increased revenue and savings from performing in-house a manufacturing step previously outsourced. Changes in deferred profit (\$0.9 million) in fiscal 2005 relative to 2004, the profit from the Bruce Technologies product line (\$0.2 million) and other improvements in the semiconductor equipment segment (\$0.3 million), primarily from the reduction in inventory write-downs, accounted for the remaining improvement in operating income (loss).

Income Tax Expense — 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.

Fiscal 2004 compared to Fiscal 2003

The following table presents certain key highlights and the percentage change from the results of operations for the fiscal years ended September 30, 2004 and 2003 (in thousands, except percentages). Due to the significant changes resulting from changes in deferred profit and from the acquisition of Bruce Technologies, the following table segregates these amounts. All other changes are segregated by segment in the table and are discussed below.

	Fiscal Year		Change in	Bruce	Increase (decrease) From All Other			
	2004	2003	Deferred Profit	Acquis. Increase	Increase (Decrease)	Percent Change	Polishing Segment	Semi-Equip Segment
Net revenues	\$19,299	\$19,434	\$(1,330)	\$1,219	\$ (24)	(0)%	\$784	\$ (808)
Cost of sales	15,350	14,599	(682)	1,029	403	3%	443	(40)
Gross margin	3,949	4,835	(649)	190	(427)	(9)%	341	(768)
Gross margin percent	20%	25%		16%				
Selling, general and administrative .	5,522	4,430	—	277	815	20%	139	676
Research and development	532	650	—	—	(118)	(18)%	—	(118)
Operating income (loss)	(2,105)	(245)	(649)	(87)	(1,123)	NM	202	(1,325)
Interest income (expense), net	3	35	—	—	(32)	NM	—	(32)
Income (loss) before income taxes .	(2,101)	(210)	(649)	(87)	(1,155)	NM	202	(1,357)
Income tax provision (benefit)	1,064	(110)	—	—	1,174	-1,067%	81	1,093
Net income (loss)	<u>\$(3,165)</u>	<u>\$ (100)</u>	<u>\$(649)</u>	<u>\$ (87)</u>	<u>\$(2,329)</u>	NM	<u>\$121</u>	<u>\$(2,450)</u>

NM = Not meaningful.

Net Revenues — The following table reflects the increase or decrease in net revenues during 2004 as compared to 2003 (in thousands, except percentages):

	Years Ended September 30,			
	2004	2003	Inc (Dec)	%
	(In thousands of dollars)			
Semiconductor Equipment Segment	\$13,215	\$14,134	\$(919)	-7%
Polishing Supplies Segment	6,084	5,300	784	15%
Net revenues	<u>\$19,299</u>	<u>\$19,434</u>	<u>\$(135)</u>	-1%

Our net revenues for 2004 were \$19.3 million, compared to \$19.4 million in 2003 and \$20.5 million in 2002, representing decreases of 1% in 2004 and 5% in 2003. Our Netherlands operation accounted for approximately 51% of consolidated net revenues and 73% of the net revenues of the semiconductor equipment segment in 2004 and 2003, respectively.

Our Netherlands operation records all transactions in Euros, its functional currency, which in turn are translated into United States (“U.S.”) dollars, our reporting currency. The Euro increased in value relative to the U.S. dollar in both 2004 and 2003. As a result of the decline in the value of the U.S. dollar, consolidated net revenues, and those of the semiconductor equipment segment, were approximately \$2.4 million and \$1.7 million higher in 2004 and 2003, respectively than they would have been had the exchange rates remained the same as the weighted average exchange rates for 2002. However, the increasing value of the Euro made it more difficult to obtain orders in Asia, leading to an 11% decline in that region’s percentage contribution to consolidated net revenue, offsetting approximately \$2.2 million of the 2004 increase in net revenue just described.

Shipments increased by \$1.2 million in 2004, compared to 2003, as a result of approximately \$1.2 million of additional sales from the Bruce Technologies product line acquired in the fourth quarter. However, changes in deferred revenue more than offset the increase in consolidated shipments and resulted in the \$0.9 million decline in revenue of the semiconductor equipment segment. Net revenues of the polishing supplies segment increased by \$0.8 million, primarily for consumables. While the acquisition of Bruce Technologies increased the semiconductor equipment net revenues by \$1.2 million, the remaining semiconductor equipment net revenues decreased by \$1.4 million.

Our semiconductor equipment segment accounted for 68% and 73% of net revenues in 2004 and 2003, respectively. This segment also accounted for 108% and 79% of the operating loss in 2004 and 2003. The semiconductor and optical component industries' cycles peaked during 2000 and reached bottom in 2002. The semiconductor industry began to improve during 2003, with new orders (net of cancellations) from this segment reaching \$13.5 million, the second highest in the history of our semiconductor equipment segment. However, this segment's business began to soften again in 2004, when new orders, excluding those acquired with the Bruce Technologies product line, declined. Again, the strong Euro relative to the U.S. dollar caused the cost of our products manufactured in Europe to be higher than those of competitors with production in the United States and Asia. Over 50% of our products have been produced in Europe over the past three years.

The semiconductor equipment segment's net revenues were \$13.2 million and \$14.1 million in 2004 and 2003, respectively, representing a 6% decline in revenue in 2004. Although shipments increased by \$0.4 million in 2004 to \$13.7 million, from \$13.3 million in 2003, revenue declined in 2004 by \$0.9 million primarily due the \$0.8 million increase in the amount of revenue deferred as a result of additional customer caused delays in completing installations and obtaining acceptances. Certain post-shipment factors that affect our timing of the recognition of revenue are discussed above. Also, see "Revenue Recognition" in Note 1 of the accompanying consolidated financial statements for a summary of our revenue recognition policy and the components of deferred profit.

Revenues of the polishing supplies segment reached a record \$8.2 million in 2000, as the semiconductor industry reached the peak of its business cycle. This segment reached the bottom of the ensuing cyclical downturn during 2002, before increasing slightly to \$5.3 million in 2003 and by another 15% to reach \$6.1 million in 2004. Increased revenues in 2004 and 2003 resulted mainly from increased sales of insert carriers. The increase in insert carrier revenue accounted for 92% of the increase in polishing supplies revenue in 2004.

Gross Margin — Consolidated gross margin for 2004 was \$3.9 million, compared to \$4.8 million in 2003, representing a decrease of \$0.9 million, or 18%, in 2004. In 2004, the gross margin of the semiconductor equipment segment decreased by \$1.2 million, or 33%, primarily due to charges for a \$0.6 million write down of inventories and \$0.3 million of estimated future losses on the sale of a small batch vertical furnace being designed and manufactured under a contract in cooperation with a significant customer in the electronics industry. The \$0.5 million increase in the deferral of profit on four systems resulting from customer delays in site preparation contributed to the 2004 decline in the gross margin of the semiconductor equipment segment. The gross margin of the polishing supplies segment increased by \$0.3 million, or 32%, in 2004 due to the increased revenue and the improvement in that segment's gross margin percentage, discussed below.

As a percentage of net revenues, the consolidated gross margin was 20.5% in 2004 and 24.9% in 2003. The \$0.5 million of gross margins that were deferred in 2004 on a nearly equal amount of deferred revenue, compared to the recognition of \$0.1 million of deferred net revenue in 2003 accounts for approximately 1.7% of the 4.4% decline in gross margins as a percentage of revenue. Pursuant to our inventory valuation accounting policy, we valued the acquired inventories, as of the date of the Bruce Technologies acquisition, at \$0.3 million less than the value at which the seller carried those inventories, and charged that amount to cost of sales. As a result, write-downs of excess or obsolete inventory were \$0.3 million higher in 2004, compared to 2003, and accounted for 1.5% of the decline in gross margin as a percentage of revenues in 2004 compared to 2003. In 2003 and 2004, development of a small batch vertical furnace pursuant to a customer purchase order was our most significant project. However, because this system is being built to a customer specification and order, the only significant incremental costs related to this development project were the \$0.3 million of costs in excess of the selling price, which were accounted for as additional cost of sales, representing another 1.5% of the decline in our gross margin percentage. These factors were only partially offset by the improved margins of the polishing supplies segment, which resulted from spreading fixed costs over that segment's higher revenue. Our gross margin has significantly fluctuated in the past and will continue to fluctuate in the future based on several factors including, but not limited to, the severity and duration of industry cycles, the timing of revenue recognition under evolving accounting principles, product mix and overhead absorption levels.

Selling, General and Administrative Expenses — Consolidated selling, general and administrative expenses were \$5.5 million in 2004, compared to \$4.4 million in 2003. The semiconductor equipment segment accounted for \$1.0 million of the increase in selling, general and administrative expenses, which is attributable to the addition of Bruce Technology in the fourth quarter of fiscal 2004 (\$0.4 million), and increases in selling personnel and related

costs (\$0.2 million), administrative personnel costs (\$0.1 million), other selling costs, such as advertising and trade shows (\$0.1 million), foreign currency transaction losses (\$0.1 million) and other general and administrative expenses (\$0.2 million). In addition, selling, general and administrative expenses increased due to the rise in the dollar value of Euro denominated expenses incurred in The Netherlands as a result of the change in the rate used to translate those costs (\$0.1 million) and to a lesser extent travel and other costs associated with the due diligence on and integration of the recent acquisition of Bruce Technologies, which were partially offset by a \$0.2 million decline in commissions as a result of a decline in sales through sales representatives, particularly in China. The remaining increase in selling, general and administrative costs in 2004 is attributable to the polishing supplies segment, primarily resulting from commissions and royalties on higher sales of insert carriers.

Selling, general and administrative expenses as a percentage of net revenues increased dramatically in 2004 to 28.6% from 22.8% in 2003, partially because Bruce Technologies selling, general and administrative expenses were approximately 36% of its revenue as a result of certain transition costs that have since been eliminated through the centralization of back office functions and because the increases in expenditures for the other operations described above did not result in proportionately greater revenue.

Research and Development Expenses — During 2004 and 2003, expenditures accounted for as research and development were \$0.5 million and \$0.7 million, respectively. The primary reason for the decline in research and development from 2003 to 2004 is that the 2003 costs include certain preliminary conceptual development costs that were incurred on the small batch vertical furnace, discussed above, prior to receipt of the customer order and thus were expensed. Subsequent to the receipt of the customer's order, we employed contract accounting and treated the subsequent costs as inventory, which we carried at the lower of cost or market until the furnace shipped in June 2005.

Operating Loss — Reduced revenues and gross margins and increased selling, general and administrative costs in 2004 resulted in an operating loss of \$2.1 million or 10.9% of revenue, compared to an operating loss of \$0.2 million, or 1.3% of revenue, in 2003. The 2004 operating loss is primarily comprised of increases in selling, general and administrative expenses, described above, \$0.5 million of operating profit deferred on the four systems that were delivered to a customer during the second and, third quarters, but on which installation could not be completed due to customer delays, \$0.6 million of inventory write-downs primarily related to inventory acquired along with the Bruce Technologies product line, and \$0.3 million of anticipated losses recorded on a customer contract, representing our investment in the development of a small batch vertical diffusion furnace that has the potential to generate significant revenues in the future.

Income Tax Provision — During 2004 we recorded an income tax provision of \$1.1 million. The provision includes a charge for \$1.8 million resulting from a valuation allowance for the total deferred tax assets at September 30, 2004. In contrast to 2004, we recorded an income tax benefit of \$0.1 million in 2003. Excluding the 2004 charge of \$1.8 million for the valuation allowance, the effective tax rate as a percentage of income (loss) before income taxes was 34% in 2004 and 52% in 2003. The lower rate in 2004 compared to 2003 is the result of permanent differences as a percentage of pre-tax loss being lower in 2004 than in 2003.

Statement of Financial Accounting Standards ("SFAS") No. 109 "Accounting for Income Taxes" ("SFAS 109") requires that 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. A review of all available positive and negative evidence needs to be considered, including a company's performance, the market environment in which the company operates and the length of carry back and carryforward periods.

SFAS 109 further states that forming a conclusion that a valuation allowance is not needed is difficult when there is negative evidence such as cumulative losses in recent years. Therefore, cumulative losses weigh heavily in the overall assessment. As a result of the review undertaken at September 30, 2004, we concluded that it was appropriate to establish a full valuation allowance for net deferred tax assets.

Our future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of pre-tax income, non-tax deductible expenses and the effectiveness of our tax planning strategies.

Net Loss — As a result of the operating results described above, 2004 resulted in a net loss of \$3.2 million, compared to the net loss of \$0.1 million for 2003. Net loss per diluted share was \$(1.17), \$(0.04) in 2004 and 2003, respectively.

Liquidity and Capital Resources

At September 30, 2005, cash and cash equivalents were \$3.3 million, an increase of \$1.6 million from September 30, 2004, primarily from the net proceeds from the April 2005 issuance of 540,000 shares of 8% convertible preferred stock which raised \$1.9 million. Our current ratio was 3.7:1 at September 30, 2005 as compared to 2.7:1 at September 30, 2004.

During fiscal 2005, cash from \$0.5 million in additional long-term borrowings was used primarily to make \$0.1 million in payments on long-term obligations and to fund the purchase of \$0.3 million of property, plant and equipment.

Working capital increased by \$2.2 million to \$10.0 million at September 30, 2005 from \$7.8 million at September 30, 2004. This increase was primarily due to the proceeds from the preferred stock offering in April 2005 and is reflected in the \$0.5 million reduction in deferred profit and the \$0.3 million increase in prepaid expenses, primarily prepaid insurance and prepayments to certain vendors. Another change within the components of working capital was a \$1.4 million increase in net receivables resulting from higher sales volume in the fourth quarter of fiscal 2005, compared to the same period of fiscal 2004. The increase in receivables was offset by \$1.5 million of cash generated from decline in inventories during the third and fourth quarters of fiscal 2005, resulting from shipment of the first small batch vertical furnace and increased sales, primarily in the semiconductor equipment business. However, due to a \$5.1 million order, which is due to ship in March 2006, we expect that inventories will increase during the first quarter of fiscal 2006. During this time we will closely monitor cash disbursements. We have been able to sustain cash flows through collections of receivables and slowing payments on certain payables. We will continue these activities over the next several months.

At September 30, 2005, our principal sources of liquidity consisted of \$3.3 million of cash and cash equivalents. Due to the significant increase in backlog and particularly the \$5.1 million, six system order, all of which is due to ship during March 2006, we expect our liquidity position to decline significantly until we receive the first payment in April 2006. As a result, we continue to hold approximately \$3.3 million in cash and cash equivalents as of December 9, 2005. We expect that we will secure a line of credit in January 2006; however, if we do not secure the line of credit, we believe we will have sufficient liquidity for our operations. However, there can be no assurance of either.

We expect working capital to be constrained until April 2006 due to cash required to produce our backlog. However, beyond April 2006, we believe that we have sufficient sources of liquidity for our operations and for certain elements of our growth strategy. One element of our growth strategy is the development of new products, such as continued process development for and improvements to the new small batch vertical model for our diffusion furnace line.

Another element of our growth strategy is the acquisition of product lines or businesses that complement our existing product lines and business. Significant unplanned development of new products or the completion of significant acquisitions will require additional capital. Historically we have obtained capital from one or more sources of financing, such as private placement of equity, public stock offerings, working capital loans or term loans from banks or other financial institutions, equipment leasing, mortgage financing and internally generated cash flow. Additional capital resources may include one or more of these sources of financing. However, there can be no assurance of the availability or sufficiency of these or any other source of funding for those purposes.

Contractual Obligations and Commercial Commitments

We have the following contractual obligations and commercial commitments as of September 30, 2005 (in thousands):

<u>Contractual obligations</u>	<u>Total</u>	<u>Less than 1 year</u>	<u>1–3 years</u>	<u>3–5 years</u>	<u>More than 5 years</u>
			(In thousands)		
Long-term debt obligations	\$ 879	\$ 139	\$ 302	\$ 75	\$363
Operating lease obligations:					
Buildings	\$ 922	\$ 409	\$ 372	\$141	\$ —
Office equipment	\$ 39	\$ 23	\$ 16	\$ —	\$ —
Vehicles	\$ 313	108	\$ 187	\$ 18	\$ —
Total operating lease obligations	\$1,273	\$ 540	\$ 575	\$158	\$ —
Purchase obligations	\$2,663	\$2,455	\$ 207	\$ —	\$ —
Total	\$4,815	\$3,134	\$1,084	\$233	\$363
Other commercial obligations:					
Bank guarantees	\$ 85	\$ 58	\$ 27	\$ —	\$ —
Preferred stock dividends	864	173	346	346	—
Total other commercial obligations	\$ 949	\$ 231	\$ 373	\$346	\$ —

Operating leases primarily include leases for offices, factories and office equipment throughout our operations.

Purchase obligations represent agreements to purchase goods and services consisting of outstanding purchase orders for goods and services. While the amount above represents purchase agreements the actual amounts to be paid may be less in the event that any agreements are renegotiated, cancelled or terminated.

At September 30, 2005, the Company's Netherlands-based subsidiary had \$0.3 million of guaranty lines of credit in place with its bank. The lines of credit are used to guaranty customer deposits on certain contracts and to fund our European operations. If the Company were unable to perform its contractual obligations to which the customer deposits relate, it could be required to perform under these guaranties. At September 30, 2005, the Company has guaranties of \$0.1 million outstanding under the guaranty lines of credit.

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 revenues 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 the section below entitled "Trends, Risks and Uncertainties." We believe the following critical accounting policies affect the more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition. We review product and service sales contracts with multiple deliverables to determine if separate units of accounting are present in the arrangements. Where separate units of accounting exist, revenue

is allocated to delivered items equal to the total sales price less the greater of (1) the relative fair value of the undelivered items, and (2) all contingent portions of the sales arrangement.

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

- (1) 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.
- (2) 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.
- (3) 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.
- (4) For all segments, sales of spare parts and consumables are recognized upon shipment, as there are no post shipment obligations other than standard warranties.
- (5) Service revenues are 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, revenues recognized for tax purposes but deferred for financial statement purposes and net operating loss carryforwards that will reduce taxable income in future periods. During 2004, we established a full valuation allowance for deferred tax assets and recognized a \$1.8 million income tax expense.

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 and specific customer collection history and any customer-specific issues we have identified. Since a significant portion of our revenues are 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, 2005, 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 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 2005 or 2004. 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” under “Impact of Recently Issued Accounting Pronouncements”.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk represents the risk of loss that may impact our financial position, results of operations or cash flows due to adverse changes in financial market rate. Our exposure to market risk primarily relates to the exposure to loss from our investment of cash and cash equivalents and changes in foreign currency exchange rates and, to a lesser degree, interest rates. We generally place our investments with high quality issuers and by policy are averse to principal loss and preserve our invested funds by limiting default risk and market risk. As of September 30, 2005, our investments primarily consisted of \$2.1 million invested in a money market mutual fund and deposits with various banks. An increase or decrease in interest rates of 1% would not have a significant effect on our results of operations.

Foreign Exchange Exposure

We transact business in various foreign countries, and are exposed to changes in foreign currency exchange rates primarily related to the operating results of our foreign affiliates. Our primary foreign currency cash flows are generated in countries in Europe and Asia. In 2005 compared to 2004, the U.S. dollar weakened on average

approximately 5% against the euro. It is highly uncertain how currency exchange rates will fluctuate in the future. Actual changes in foreign exchange rates could adversely affect our operating results or financial condition. The potential impact depends upon the magnitude of the rate change.

Revenues are denominated in U.S. dollars and euros. In fiscal 2005 our net revenues in euros reported in equivalent U.S. dollars was approximately \$8.2 million. We are exposed to foreign exchange risk associated with accounts receivable and payable denominated in foreign currencies. Because the functional currency of our European operation is the euro, all balances held in other currencies (including US dollars) expose us to foreign currency risk. At September 30, 2005, our European operation had approximately \$1.3 million of cash, \$0.2 million of accounts receivable and zero accounts payable denominated in U.S. Dollars. A ten percent change in exchange rates would result in an approximate \$0.2 million net impact on pre-tax income based on the foreign currency denominated cash, accounts receivable and accounts payable balances at September 30, 2005.

Our primary manufacturing operations are currently based in The Netherlands. These operations constitute a significant portion of our revenues and identifiable assets. These identifiable assets are based in euros. International operations result in a large volume of foreign currency commitments and transactions and significant foreign currency net asset exposures. As of September 30, 2005, our European operation had firm sales commitments denominated in euros amounting to the equivalent of approximately \$5.0 million. The effect of a 10% change in the euro-to-US dollar exchange rate on these commitments, assuming a 20% gross margin, is estimated to be approximately \$0.1 million on future pre-tax earnings. In addition, as of September 30, 2005, our European operation had a firm sales commitment denominated in US dollars for which a portion of the cost will be denominated in euros amounting to the equivalent of approximately \$1.1 million. The effect of a 10% change in the euro-to-US dollar exchange rate on this commitment is estimated to be approximately \$0.1 million on future pre-tax earnings.

Our operations in the United States are conducted in U. S. dollars. Our operation in the Netherlands, a component of the semiconductor equipment segment, conducts business primarily in the Euro and the U. S. dollar. The functional currency of our Netherlands operation is the Euro. The functional currency for all other operating units is the U. S. dollar.

As of September 30, 2005, we did not hold any stand-alone or separate derivative instruments. We incurred net foreign currency transaction losses of \$0.1 million in both fiscal year 2005 and 2004. Our investment in and advances to our European operation totaled \$1.9 million as of September 30, 2005. A 10% change in the value of the Euro relative to the U. S. dollar would cause an approximately \$0.2 million foreign currency translation adjustment, a type of other comprehensive income (loss), which would be a direct adjustment to our stockholders' equity.

When the value of the Euro increases relative to the value of the U. S. dollar, as it has during 2005 and 2004, our operation in the Netherlands becomes less competitive outside the European market, as it must raise prices to those customers that normally make purchases in U. S. dollars, in order to maintain the same profit margins. When this occurs, this operation attempts to have transactions denominated in the Euro and to increase its purchases denominated in U. S. dollars, which become less expensive. When the value of the Euro declines relative to the value of the U. S. dollar, our operation in the Netherlands can be more competitive against United States based equipment suppliers, as the cost of purchases denominated in U. S. dollars becomes more expensive. Because it is difficult to predict the volume of U. S. dollar denominated transactions arising from our Netherlands operation, we do not hedge against the effects of exchange rate changes on future transactions. The Euro remains at a relatively high value relative to the U. S. dollar at September 30, 2005, leaving our Netherlands operation at a competitive disadvantage compared to other suppliers based in the United States. This high value also increases the risk of future unfavorable foreign currency translation adjustments, which would be a direct adjustment to stockholders' equity and included in comprehensive income (loss).

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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

Financial Statements

Reports of Independent Registered Public Accounting Firms	35
Consolidated Balance Sheets: September 30, 2005 and 2004	37
Consolidated Statements of Operations:	
Years ended September 30, 2005, 2004 and 2003	38
Consolidated Statements of Stockholders' Equity and Comprehensive Income (Loss):	
Years ended September 30, 2005, 2004 and 2003	39
Consolidated Statements of Cash Flows:	
Years ended September 30, 2005, 2004 and 2003	40
Notes to Consolidated Financial Statements	41

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders
Amtech Systems, Inc.:

We have audited the accompanying consolidated balance sheet of Amtech Systems, Inc. and subsidiaries (the Company) as of September 30, 2005 and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss) and cash flows for the year then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Amtech Systems, Inc. and subsidiaries as of September 30, 2005, and the results of their operations and their cash flows for the year then ended, in conformity with U.S. generally accepted accounting principles.

/s/ Mayer Hoffman McCann P.C.

Mayer Hoffman McCann P.C.

Phoenix, Arizona
December 15, 2005

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Amtech Systems, Inc.:

We have audited the accompanying consolidated balance sheet of Amtech Systems, Inc. and subsidiaries (the Company) as of September 30, 2004, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss) and cash flows for each of the years in the two-year period ended September 30, 2004. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Amtech Systems, Inc. and subsidiaries as of September 30, 2004, and the results of their operations and their cash flows for each of the years in the two-year period ended September 30, 2004, in conformity with accounting principles generally accepted in the United States of America.

/s/ KPMG LLP

Phoenix, Arizona
January 10, 2005

PART I FINANCIAL INFORMATION

ITEM 1. Consolidated Financial Statements

AMTECH SYSTEMS, INC. AND SUBSIDIARIES

Consolidated Balance Sheets

September 30, 2005 and 2004

	September 30,	
	2005	2004
Assets		
Current Assets		
Cash and cash equivalents	\$ 3,309,264	\$ 1,674,352
Accounts receivable (less allowance for doubtful accounts of \$223,000 and \$188,000 at September 30, 2005 and 2004, respectively)	4,996,577	3,629,177
Inventories	4,308,143	5,993,837
Income taxes receivable	422,630	611,333
Prepaid expenses	681,224	357,475
Total current assets	13,717,838	12,266,174
Property, Plant and Equipment — Net	1,937,359	2,220,172
Intangible Assets — Net	1,227,244	1,343,171
Goodwill	816,639	816,639
Other Assets	2,105	13,374
Total Assets	<u>\$17,701,185</u>	<u>\$16,659,530</u>
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts payable	\$ 1,166,079	\$ 1,459,197
Current maturities of long-term debt	137,984	19,730
Accrued compensation and related taxes	932,972	743,600
Accrued warranty expense	248,386	260,332
Deferred profit	623,998	1,031,441
Customer deposits	216,612	210,803
Accrued loss on contract	—	363,862
Other accrued liabilities	425,990	441,979
Total current liabilities	3,752,021	4,530,944
Long-Term Obligations	740,581	473,510
Total liabilities	4,492,602	5,004,454
Commitments, Contingencies and Subsequent Event		
Stockholders' Equity		
Preferred stock; 100,000,000 shares authorized; Series A convertible preferred stock, \$0.01 par value; liquidation value \$2,236,221 at September 30, 2005; 540,000 shares issued and outstanding at September 30, 2005	1,935,428	—
Common stock; \$0.01 par value; 100,000,000 shares authorized; shares issued and outstanding: 2,705,221 at September 30, 2005 and 2,705,121 at September 30, 2004	27,052	27,051
Additional paid-in capital	12,861,164	12,887,986
Accumulated other comprehensive income	404,173	500,275
Accumulated deficit	(2,019,234)	(1,760,236)
Total stockholders' equity	13,208,583	11,655,076
Total Liabilities and Stockholders' Equity	<u>\$17,701,185</u>	<u>\$16,659,530</u>

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

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements of Operations

	Year Ended September 30,		
	2005	2004	2003
Revenues, net of returns and allowances	\$27,899,124	\$19,298,897	\$19,433,534
Cost of sales	<u>20,230,671</u>	<u>15,350,214</u>	<u>14,598,488</u>
Gross margin	7,668,452	3,948,683	4,835,046
Selling, general and administrative	7,179,790	5,521,771	4,430,418
Research and development	<u>626,960</u>	<u>531,609</u>	<u>650,051</u>
Operating loss	(138,298)	(2,104,697)	(245,423)
Interest income (expense), net	<u>(35,845)</u>	<u>3,425</u>	<u>35,744</u>
Loss before income taxes	(174,143)	(2,101,272)	(209,679)
Income tax provision (benefit)	<u>84,855</u>	<u>1,064,000</u>	<u>(110,000)</u>
Net loss	<u><u>\$ (258,998)</u></u>	<u><u>\$ (3,165,272)</u></u>	<u><u>\$ (99,679)</u></u>
Loss Per Share:			
Basic loss per share	\$ (.12)	\$ (1.17)	\$ (0.04)
Weighted average shares outstanding	2,705,125	2,702,060	2,692,222
Diluted loss per share	\$ (.12)	\$ (1.17)	\$ (0.04)
Weighted average shares outstanding	2,705,125	2,702,060	2,692,222

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

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

	Common Stock		Preferred Stock		Additional	Accumulated	Retained	Total
	Number of	Amount	Number of	Amount	Paid-In	Other	Earnings	Stockholders'
	Shares		Shares		Capital	Comprehensive	(Accumulated	Equity
						Income (Loss)	Deficit)	
Balance at September 30, 2002 ..	2,688,571	\$26,886	—	\$ —	\$12,859,715	\$(179,639)	\$ 1,504,715	\$14,211,677
Net loss	—	—	—	—	—	—	(99,679)	(99,679)
Translation adjustment	—	—	—	—	—	493,963	—	493,963
Minimum pension liability adjustment	—	—	—	—	—	(119,986)	—	(119,986)
Comprehensive income	—	—	—	—	—	—	—	274,298
Stock options exercised	9,850	98	—	—	13,324	—	—	13,422
Balance at September 30, 2003 ..	<u>2,698,421</u>	<u>\$26,984</u>	<u>—</u>	<u>—</u>	<u>\$12,873,039</u>	<u>194,338</u>	<u>\$ 1,405,036</u>	<u>\$14,499,397</u>
Net loss	—	—	—	—	—	—	\$(3,165,272)	\$(3,165,272)
Translation adjustment	—	—	—	—	—	\$ 185,951	—	185,951
Minimum pension liability adjustment	—	—	—	—	—	119,986	—	119,986
Comprehensive loss	—	—	—	—	—	—	—	(2,859,335)
Stock options exercised	6,700	\$ 67	—	—	\$ 14,947	—	—	15,014
Balance at September 30, 2004 ..	<u>2,705,121</u>	<u>\$27,051</u>	<u>—</u>	<u>—</u>	<u>\$12,887,986</u>	<u>\$ 500,275</u>	<u>\$(1,760,236)</u>	<u>\$11,655,076</u>
Net loss	—	—	—	—	—	—	\$ (258,998)	(258,998)
Translation adjustment	—	—	—	—	—	\$ (96,102)	—	(96,102)
Comprehensive loss	—	—	—	—	—	—	—	(355,100)
Issuance of preferred stock	—	—	540,000	\$1,859,207	\$ 49,200	—	—	1,908,407
Dividends on preferred stock ..	—	—	—	76,221	(76,221)	—	—	—
Stock options exercised	100	\$ 1	—	—	199	—	—	200
Balance at September 30, 2005 ..	<u>2,705,221</u>	<u>\$27,052</u>	<u>540,000</u>	<u>\$1,935,428</u>	<u>\$12,861,164</u>	<u>\$ 404,173</u>	<u>\$(2,019,234)</u>	<u>\$13,208,583</u>

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

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements Of Cash Flows

	Year Ended September 30,		
	2005	2004	2003
Operating Activities			
Net loss	\$ (258,998)	\$(3,165,272)	\$ (99,679)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	674,620	510,271	483,997
Write-down of inventory	291,171	641,202	297,052
Provision for doubtful accounts	75,810	26,172	47,514
Loss on disposals of long-lived assets	14,020	—	9,029
Gain from merger of pension plan	—	(54,424)	—
Deferred income taxes	—	1,130,000	2,000
Changes in operating assets and liabilities:			
Accounts receivable	(1,437,037)	(540,540)	(78,603)
Inventories	1,498,051	(268,494)	(865,808)
Income taxes receivable	212,066	(142,200)	(508,575)
Prepaid expenses and other assets	(328,739)	(156,736)	(93,740)
Accounts payable	(312,276)	194,175	223,815
Accrued liabilities and customer deposits	(240,453)	195,535	20,430
Deferred profit	(511,608)	464,589	(209,263)
Net cash used in operating activities	<u>(323,373)</u>	<u>(1,165,722)</u>	<u>(771,831)</u>
Investing Activities			
Investment in Bruce Technologies, Inc.	—	(3,598,911)	—
Proceeds from sale of assets	4,427	—	—
Purchases of property, plant and equipment	<u>(283,571)</u>	<u>(1,079,111)</u>	<u>(206,307)</u>
Net cash used in investing activities	<u>(279,144)</u>	<u>(4,678,022)</u>	<u>(206,307)</u>
Financing Activities			
Common stock issued	200	15,014	13,422
Preferred stock issued	1,908,407	—	—
Payments on long-term obligations	(106,694)	—	—
Borrowings on long-term obligations	<u>500,000</u>	<u>—</u>	<u>255,713</u>
Net cash provided by financing activities	<u>2,301,913</u>	<u>15,014</u>	<u>269,135</u>
Effect of Exchange Rate Changes on Cash	<u>(64,484)</u>	<u>50,013</u>	<u>116,409</u>
Net Increase (Decrease) in Cash and Cash Equivalents	<u>1,634,912</u>	<u>(5,778,717)</u>	<u>(592,594)</u>
Cash and Cash Equivalents, Beginning of Year	<u>1,674,352</u>	<u>7,453,069</u>	<u>8,045,663</u>
Cash and Cash Equivalents, End of Year	<u>\$ 3,309,264</u>	<u>\$ 1,674,352</u>	<u>\$7,453,069</u>
Supplemental Cash Flow Information:			
Interest expense paid	\$ 80,220	\$ 27,576	\$ 34,414
Income taxes paid	\$ 141,312	\$ 85,000	\$ 383,000
Supplemental Non-cash Financing Activities:			
Preferred stock dividend accrual	\$ 76,221	\$ —	\$ —
Warrant issued	\$ 49,200	—	—
Minimum pension liability adjustment	—	\$ 119,986	\$ (119,986)

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

Notes to Consolidated Financial Statements

For the Years Ended September 30, 2005, 2004 and 2003

1. Summary of Significant Accounting Policies

Nature of Operations and Basis of Presentation — Amtech Systems, Inc., an Arizona corporation (“Amtech”), and its wholly-owned subsidiaries; P. R. Hoffman Machine Products, Inc. (“P. R. Hoffman”) and Bruce Technologies, Inc. (“Bruce Technologies”), based in the United States; and Tempres Systems, Inc. (“Tempres”) based in the Netherlands, comprise the “Company”. We design, assemble, sell and install capital equipment and related consumables used in the manufacture of wafers of various materials, primarily silicon wafers for the semiconductor industry, and in certain semiconductor fabrication processes. These products are sold to manufacturers of silicon wafers and semiconductors worldwide, particularly in the United States, Asia and northern Europe. In addition, we provide semiconductor manufacturing support services.

We serve a niche market in an industry that experiences rapid technological advances, and which in the past has been very cyclical. Therefore, our future profitability and growth depend on our ability to develop or acquire and market profitable new products, and on our ability to adapt to cyclical trends.

Principles of Consolidation — The consolidated financial statements include the accounts of Amtech and its wholly owned subsidiaries P.R. Hoffman and Tempres. Effective July 1, 2004, the consolidated financial statements include the accounts of Bruce Technologies. All material intercompany accounts and transactions have been eliminated in consolidation.

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

Reclassifications — We reclassified expenses previously classified as selling, general and administrative costs to cost of sales in the three months ended December 31, 2004. There was no effect on net income.

Revenue Recognition — We recognize revenue from the sale of equipment upon shipment equal to the percentage that the customer is unconditionally obligated to pay based upon the shipment (typically between 80% and 90%). We defer the portion of the revenue equal to the greater of the fair value of the installation or the amount contingent upon acceptance. As there are others that can perform the installation work, the undelivered services are not essential to the utility of delivered equipment. However, in those cases where the product is not yet proven, 100% of the revenue is deferred until final customer acceptance.

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

	September 30,		
	2005	2004	2003
Deferred revenues	\$1,662,195	\$1,130,796	\$626,265
Deferred costs	<u>1,038,197</u>	<u>99,355</u>	<u>92,183</u>
Deferred profit	<u>\$ 623,998</u>	<u>\$1,031,441</u>	<u>\$534,082</u>

Cash Equivalents — Cash equivalents consist of money market mutual funds, time certificates of deposit and U.S. treasury bills. The Company considers certificates of deposit and treasury bills to be cash equivalents if their original maturity is 90 days or less.

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

The following is a summary of the activity in the Company's allowance for doubtful accounts during the years ended September 30, 2005, 2004 and 2003:

	Years Ended September 30,		
	2005	2004	2003
Balance at beginning of year	\$188,000	\$176,000	\$152,000
Charged to expense	76,000	26,172	47,514
Write-offs	(41,000)	(14,172)	(23,514)
Balance at end of year	<u>\$223,000</u>	<u>\$188,000</u>	<u>\$176,000</u>

Concentrations of Credit Risk — Financial instruments that potentially subject Amtech to significant concentrations of credit risk consist principally of cash equivalents and trade accounts receivable. The Company invests in a variety of financial instruments with high quality financial institutions, such as, large money market mutual funds, certificates of deposit and U.S. treasury bills. Amtech's customers consist of semiconductor manufacturers located throughout the world. The Company manages credit risk by performing ongoing credit evaluations of its customers' financial condition, by requiring significant deposits where appropriate and by actively monitoring collections. Letters of credit are required of certain customers depending on the size of the order, type of customer or its creditworthiness and its country of domicile. Amtech maintains a reserve for potentially uncollectible receivables based on its assessment of collectibility.

As of September 30, 2005, receivables from two customers amounted to 14% and 10% of accounts receivable, respectively. As of September 30, 2004, receivables from one customer comprised 15% of accounts receivable. Refer to Note 10, Business Segment Information, for information regarding revenues and assets in other countries subject to foreign currency exchange rates. Management believes the amounts outstanding at September 30, 2005, from these customers, are fully collectible.

As of September 30, 2005 our backlog includes a multi-system order totaling \$5.1 million, or approximately 35% of the total backlog and equivalent to 18% of our 2005 consolidated revenue.

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

	September 30, 2005	September 30, 2004
Purchased parts and raw materials	\$3,345,845	\$4,161,847
Work-in-process	393,761	1,185,428
Finished goods	<u>568,537</u>	<u>646,562</u>
	<u>\$4,308,143</u>	<u>\$5,993,837</u>

Property, Plant and Equipment — Maintenance and repairs are charged to expense as incurred. The costs of additions and improvements are capitalized. The cost of property retired or sold and the related accumulated depreciation are removed from the applicable accounts when disposition occurs and any gain or loss is recognized. Depreciation is computed using the straight-line method. Useful lives for equipment, machinery and leasehold improvements range from three to seven years; for furniture and fixtures from five to ten years; and for buildings twenty years. Long-lived assets are reviewed for impairment at least annually in accordance with SFAS No. 144.

The following is a summary of property, plant and equipment:

	September 30, 2005	September 30, 2004
Land, building and leasehold improvements	\$ 1,024,792	\$ 945,146
Equipment and machinery	1,929,194	1,839,007
Furniture and fixtures	<u>2,255,240</u>	<u>2,287,264</u>
	5,209,226	5,071,417
Accumulated depreciation and amortization	<u>(3,271,867)</u>	<u>(2,851,245)</u>
	<u>\$ 1,937,359</u>	<u>\$ 2,220,172</u>

Goodwill — Goodwill and intangible assets with indefinite lives are not subject to amortization, but are tested for impairment at least annually. The company accounts for goodwill under the provisions of SFAS No. 142. Accordingly, we review goodwill for impairment on an annual basis, or more frequently if circumstances dictate. Based on our analysis, there was no impairment of goodwill for the years ended September 30, 2005, 2004 and 2003.

Intangibles — Intangible assets are capitalized and amortized over 6 months to 15 years if the life is determinable. If the life is not determinable, amortization is not recorded. The aggregate amortization expense for the intangible assets for each of the five succeeding fiscal years is estimated to be \$85,000, \$79,000, \$73,000, \$53,000 and \$53,000 in 2006, 2007, 2008, 2009 and 2010, respectively.

The following is a summary of intangibles:

	Useful Life	September 30, 2005	September 30, 2004
Patents	7 yrs	\$ 74,161	\$ 97,002
Trademarks	Indefinite	592,000	592,000
Non-compete agreements	10 yrs	350,000	350,000
Customer lists	15 yrs	276,000	276,000
Backlog/acquired contracts	6 months	50,000	50,000
Technology	4 yrs	<u>102,000</u>	<u>102,000</u>
		1,444,161	1,467,002
Accumulated amortization		<u>(216,917)</u>	<u>(123,831)</u>
		<u>\$1,227,244</u>	<u>\$1,343,171</u>

Proprietary Product Rights — Through the acquisition of the net assets of P. R. Hoffman, the Company acquired the license for the design of its steel carriers with plastic inserts for abrasive machining of silicon wafers. In 1995, P. R. Hoffman licensed the patent rights from the patent holder, and pays a royalty to the patent holder for the use of such patent rights. Royalty expense for all licenses is included in cost of sales and totaled \$149,000, \$108,000 and \$84,000 in 2005, 2004 and 2003, respectively.

Warranty — We provide, free of charge, a limited warranty generally for periods of 12 to 24 months to all purchasers of our new products and systems. We record accruals for estimated warranty costs at the time revenue is recognized. Management believes the amounts accrued for future warranty expenditures are sufficient for all warranty costs on systems sold through September 30, 2005.

The following is a summary of activity in accrued warranty expense:

	<u>Years Ended September 30,</u>	
	<u>2005</u>	<u>2004</u>
Beginning balance	\$260,332	\$321,300
Warranty expenditures	(52,199)	(75,707)
Assumed liability from acquisition	—	108,026
Reserve Adjustment	<u>40,253</u>	<u>(93,287)</u>
Ending balance	<u>\$248,386</u>	<u>\$260,332</u>

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

Foreign Currency Transactions and Translation — Financial information relating to the Company's foreign subsidiaries is reported in accordance with SFAS No. 52, "Foreign Currency Translation." The functional currency of Tempres is the Euro. Net income (loss) includes pretax net losses from foreign currency transactions of \$105,000 in 2005, \$70,000 in 2004 and pretax gains of \$55,000 in 2003. The gains or losses resulting from the translation of Tempres' financial statements have been included in other comprehensive income (loss).

Income Taxes — We file consolidated federal income tax returns and computes deferred income tax assets and liabilities based upon cumulative temporary differences between financial reporting and taxable income, carryforwards available and enacted tax laws.

Statement of Financial Accounting Standards ("SFAS") No. 109 "Accounting for Income Taxes" ("SFAS 109") requires that 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. A review of all available positive and negative evidence needs to be considered, including a company's performance, the market environment in which the company operates and the length of carry back and carryforward periods.

SFAS 109 further states that forming a conclusion that a valuation allowance is not needed is difficult when there is negative evidence such as cumulative losses in recent years. Therefore, cumulative losses weigh heavily in the overall assessment. As a result of the review undertaken at September 30, 2004, we concluded that it was appropriate to establish a full valuation allowance for net deferred tax assets. A valuation allowance for deferred tax assets was recorded in the amount of \$1.8 million on September 30, 2004.

Stock-Based Compensation — We account for the employee stock-based compensation plans under Statement of Financial Accounting Standards ("SFAS") No. 123, "Accounting for Stock-Based Compensation." SFAS No. 123 permits companies to record employee stock-based transactions in accordance with Accounting Principles Board ("APB") Opinion No. 25, "Accounting for Stock Issues to Employees," under which compensation cost is recognized under the intrinsic value method.

We have recognized no compensation expense as all options have been granted with an exercise price equal to, or greater than, the fair value of the common stock on the date of grant. No adjustment has been made for the non-transferability of the options or for the risk of forfeiture at the time of issuance. Forfeitures of unvested options are instead recorded as incurred. The fair value of each option grant has been estimated as of the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

	<u>Years Ended September 30,</u>		
	<u>2005</u>	<u>2004</u>	<u>2003</u>
Risk free interest rate	4.00% to 4.16%	3.71% to 4.74%	3.65% to 3.71%
Expected life	5 years	4 to 6 years	4 years
Dividend rate	0%	0%	0%
Volatility	39% to 40%	40% to 53%	32% to 44%

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

	Years Ended September 30,		
	2005	2004	2003
Net loss, as reported	\$(258,998)	\$(3,165,272)	\$ (99,679)
Compensation reported in statements	—	—	—
Proforma compensation expense	<u>279,021</u>	<u>210,339</u>	<u>192,205</u>
Net loss, pro forma	<u>\$(538,019)</u>	<u>\$(3,375,611)</u>	<u>\$(291,884)</u>
Basic Loss Per Share:			
As reported	\$ (.12)	\$ (1.17)	\$ (.04)
Pro forma	(.23)	(1.25)	(.11)
Diluted Loss per Share:			
As reported	\$ (.12)	\$ (1.17)	\$ (.04)
Pro forma	(.23)	(1.25)	(.11)

Fair Value of Financial Instruments — The carrying values of the Company’s current financial instruments approximate fair value due to the short term in which these instruments mature. The carrying values of the Company’s line of credit (see Note 4) and long-term debt (see Note 5) approximate fair value because their variable interest rates approximate the prevailing interest rates for similar debt instruments.

Impact of Recently Issued Accounting Pronouncements

In November 2004, the FASB issued SFAS No. 151, “Inventory Costs,” which amends the guidance in ARB No. 43, Chapter 4, “Inventory Pricing,” to clarify the accounting for abnormal amounts of idle facility expense, freight, handling costs and wasted material. This Statement requires that those items be recognized as current-period charges regardless of whether they meet the criterion of “so abnormal.” In addition, this Statement requires allocation of fixed production overhead to the costs of conversion be based on the normal capacity of the production facilities. We are currently evaluating the provisions of SFAS No. 151 and will adopt it on October 1, 2005, as required. We believe the adoption of this Statement will not have a material effect on our financial position or results of operations.

In December 2004, the FASB issued SFAS No. 123R, “Share-Based Payments”, which amends SFAS No. 123, “Accounting for Stock-Based compensation”. This statement requires companies to expense the fair value of employee stock options and similar awards and is effective for periods beginning after the beginning of the next fiscal year as amended April 14, 2005. We will adopt the provisions of SFAS No. 123R on October 1, 2005. See the pro forma disclosed on the previous page for the impact on current and prior period results using the fair value method as prescribed under SFAS No. 123. We are currently evaluating the impact of adopting SFAS No. 123R.

In January 2005, the FASB issued FASB Staff Position (“FSP”) No. FAS 109-1, “Application of SFAS No. 109 to the Tax Deduction on Qualified Production Activities Provided by the American Jobs Creation Act of 2004”. This FSP provides guidance for the accounting of a deduction provided to U. S. manufacturing companies and is effective immediately. We believe the adoption of this position currently will not have a material effect on our financial position or results of operations. However, there is no assurance that there will not be a material impact in the future.

In March 2005, the FASB published FASB Interpretation No. 47, “Accounting for Conditional Asset Retirement Obligations,” which clarifies that the term, “conditional asset retirement obligations,” as used in SFAS No. 143, “Accounting for Asset Retirement Obligations,” refers to a legal obligation to perform an asset retirement activity in which the timing and (or) method of settlement are conditional on a future event that may or may not be within the control of the entity. The uncertainty about the timing and (or) method of settlement of a conditional asset retirement obligation should be factored into the measurement of the liability when sufficient information exists. The interpretation also clarifies when an entity would have sufficient information to reasonably estimate the fair value of an asset retirement obligation. This interpretation is effective for fiscal years ending after December 15, 2005. The adoption of this Interpretation is not expected to have a material effect on the Company’s consolidated financial position or results of operations.

In June 2005, the FASB issued SFAS No. 154, *Accounting Changes and Error Corrections*, which replaces APB Opinion No. 20, *Accounting Changes*, and SFAS No. 3, *Reporting Accounting Changes in Interim Financial Statements*. Statement 154 changes the requirements for the accounting and reporting of a change in accounting principle. APB Opinion No. 20 previously required that most voluntary changes in an accounting principle be recognized by including the cumulative effect of the new accounting principle in net income of the period of the change. SFAS No. 154 now requires retrospective application of changes in an accounting principle to prior period financial statements, unless it is impracticable to determine either the period-specific effects or the cumulative effect of the change. The Statement is effective for fiscal years beginning after December 15, 2005. We do not expect the adoption of this statement will have a material impact on our financial statements.

In July 2005, the FASB issued FASB Staff Position (“FSP”) No. FAS 150-5, “Accounting Under SFAS 150 for Freestanding Warrants and Other Similar Instruments on Redeemable Shares”. This FSP clarifies that warrants on shares that are redeemable or puttable immediately upon exercise and warrants on shares that are redeemable or puttable in the future qualify as liabilities under SFAS 150, regardless of the redemption feature or redemption price. The FSP is effective for the first reporting period beginning after June 30, 2005, with resulting changes to prior period statements reported as the cumulative effect of an accounting change in accordance with the transition provisions of SFAS No. 150. We adopted the provisions of FSP No. FAS 150-5 on July 1, 2005. The adoption of this statement did not have a material impact on our financial statements.

In July 2005, the FASB issued EITF 05-6 “Determining the Amortization Period for Leasehold Improvements Purchased after Lease Inception or Acquired in a Business Combination”, which addresses the amortization period for leasehold improvements on operating leases acquired significantly after the beginning of the lease. The EITF is effective for leasehold improvements made in periods beginning after June 29, 2005. We adopted the provisions of EITF 05-6 on July 1, 2005. The adoption of this EITF did not have a material effect on our financial position or results of operations.

2. Stock-Based Compensation

Stock Option Plans — The Board of Directors has reserved 15,000 shares of common stock for issuance upon exercise of the outstanding options granted to directors under Director Stock Purchase Agreements prior to 1996. The Non-Employee Directors Stock Option Plan was approved by the shareholders in 1996 for the issuance of up to 100,000 shares of common stock to Directors. The Amended and Restated 1995 Stock Option Plan and the 1995 Stock Bonus Plan were also approved by stockholders in 1996 under which a combined total of 160,000 shares were authorized. The 1998 Employee Stock Option Plan (the “1998 Plan”), under which 50,000 shares could be granted, was adopted by the Board of Directors on January 31, 1998 and approved by shareholders on March 20, 1998. On October 13, 2000, the Board of Directors authorized an increase in the number of shares available for options under the 1998 Plan to 300,000 shares. The amendment was approved by the shareholders at the annual meeting on March 15, 2001. On December 14, 2001, the Board of Directors authorized an increase in the number of shares available for options under the 1998 Plan to 500,000 shares. The amendment was approved by the shareholders at the annual meeting on March 29, 2002. On July 8, 2005, the Board of Directors authorized an increase in the number of shares available for options under the Non-Employee Directors Stock Option Plan to 200,000 shares. The amendment was approved by the shareholders at the annual meeting on July 8, 2005.

Our employee stock-based compensation plans are summarized in the table below:

<u>Name of Plan</u>	<u>Shares Authorized</u>	<u>Shares Available</u>	<u>Plan Expiration</u>
Director Stock Purchase Agreements (pre-1996)	10,000	—	July 2006
Non-Employee Directors Stock Option Plan	200,000	101,600	July 2015
Amended and Restated 1995 Stock Option Plan and 1995 Stock Bonus Plan	160,000	750	October 2005
1998 Employee Stock Option Plan	500,000	155,861	January 2008
		<u>258,211</u>	

Qualified stock options issued under the terms of the plans have, or will have, an exercise price equal to, or greater than, the fair market value of the common stock at the date of the option grant, and expire no later than

ten years from the date of grant, with the most recent grant expiring in 2015. Under the terms of the amended and restated 1995 Stock Option Plan, nonqualified stock options may also be issued. Options vest at the rate of 20%–33% per year.

The stock option transactions and the options outstanding are summarized as follows:

	Years Ended September 30,					
	2005		2004		2003	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of period	439,017	\$4.83	405,217	\$4.70	434,567	\$4.78
Granted	30,789	3.99	65,000	5.70	16,000	3.11
Exercised	(100)	2.00	(6,700)	2.24	(9,850)	1.36
Forfeited/cancelled	(1,500)	4.36	(24,500)	5.62	(35,500)	5.87
Outstanding at end of period	<u>468,206</u>	\$4.78	<u>439,017</u>	\$4.83	<u>405,217</u>	\$4.70
Exercisable at end of period	<u>348,684</u>	\$4.64	<u>278,717</u>	\$4.39	<u>202,467</u>	\$4.01
Weighted average fair value of options granted during the period	\$ 1.64		\$ 2.68		\$ 1.03	

The following summarizes information about stock options outstanding at September 30, 2005:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Number Outstanding	Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
\$ 1.13 – 1.49	70,017	1.41	\$1.13	70,017	\$1.13
1.50 – 1.99	9,000	3.40	1.50	9,000	1.50
2.00 – 3.24	17,889	7.89	2.93	8,166	2.84
3.25 – 4.24	18,500	8.15	3.43	6,500	3.25
4.25 – 5.49	108,800	5.36	4.51	73,600	4.45
5.50 – 6.49	78,000	6.77	5.79	45,401	5.81
6.50 – 6.99	<u>166,000</u>	5.48	6.54	<u>136,000</u>	6.55
	<u>468,206</u>			<u>348,684</u>	

3. Earnings Per Share

Basic earnings per share is computed by dividing net income (loss) available to common stockholders (net income less accrued preferred stock dividends) by the weighted average number of common shares outstanding for the period. Diluted earnings per share is computed similarly to basic earnings per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if potentially dilutive common shares had been issued, and the numerator is based on net income. In the case of a net loss, diluted earnings per share is calculated in the same manner as basic earnings per share.

Common shares relating to stock options where the exercise prices exceeded the average market price of our common shares during the period were excluded from the diluted earnings per share computation as the related impact was anti-dilutive. Options and warrants of 528,206 shares, 498,317 shares and 450,917 shares are excluded from the earnings per share calculation as they are antidilutive due to the net loss for 2005, 2004 and 2003 respectively.

	2005	2004	2003
Basic Loss Per Share Computation			
Net loss	\$ (258,998)	\$(3,165,272)	\$ (99,679)
Preferred stock dividends	(76,221)	—	—
Net loss available to common stockholders	<u>\$ (335,219)</u>	<u>\$(3,165,272)</u>	<u>\$ (99,679)</u>
Weighted Average Shares Outstanding:			
Common stock	<u>2,705,125</u>	<u>2,702,060</u>	<u>2,692,222</u>
Basic loss per share	<u>\$ (.12)</u>	<u>\$ (1.17)</u>	<u>\$ (.04)</u>
Diluted Loss Per Share Computation			
Net loss	\$ (258,998)	\$(3,165,272)	\$ (99,679)
Weighted Average Shares Outstanding:			
Common stock	2,705,125	2,702,060	2,692,222
Common stock equivalents	—	—	—
Diluted shares	<u>2,705,125</u>	<u>2,702,060</u>	<u>2,692,222</u>
Diluted loss per share	<u>\$ (.12)</u>	<u>\$ (1.17)</u>	<u>\$ (.04)</u>

4. Comprehensive Income (Loss)

	Years Ended September 30,		
	2005	2004	2003
Net loss, as reported	\$(258,998)	\$(3,165,272)	\$ (99,679)
Foreign currency translation adjustment	(96,102)	185,951	493,963
Minimum pension liability adjustment	—	119,986	(119,986)
Comprehensive loss	<u>\$(355,100)</u>	<u>\$(2,859,335)</u>	<u>\$ 274,298</u>

5. Line of Credit

The Company has a line of credit in the amount of Euro 250,000 (approximately \$301,000 using the spot rate at the end of the period) as of September 30, 2005. The line of credit accrues interest at a rate of 1.75% over a Netherlands bank's basic interest rate (2.75% at September 30, 2005 and 2004). The line of credit has no fixed expiration date. The line of credit is secured by a lien on the Company's land and buildings and on trade accounts receivable in The Netherlands. As of September 30, 2005 and 2004, there were no borrowings on the line of credit.

6. Long-Term Obligations

Long-term obligations include a mortgage, secured by a lien on the Company's land and buildings and on trade accounts receivable in The Netherlands. The principal amount of the mortgage was \$463,000 and \$493,000 as of September 30, 2005 and 2004, respectively. The mortgage matures on July 31, 2029. Principal payments of \$5,000 per quarter are due until the mortgage is retired. Interest is paid monthly at a fixed rate of 4.1% until August 1, 2007, at which time a new fixed rate will be set based on prevailing market conditions. There is no penalty for prepayment of the mortgage, as long as the prepayment is made at the end of a fixed rate period as defined in the mortgage agreement.

In December 2004, we financed a laser cutting tool purchased in the fourth quarter of fiscal 2004. We financed \$500,000 at an interest rate of 6.55% with 48 equal monthly payments of \$11,869, including principal and interest. The outstanding principal balance of this loan was \$416,000 as of September 30, 2005.

Total maturities of long term debt are \$139,000 in 2006, \$147,000 in 2007, \$155,000 in 2008, \$55,000 in 2009, \$20,000 in 2010 and \$363,000 thereafter.

7. Stockholders' Equity

The Company's stockholder rights plan authorizes the distribution of one right for each outstanding common share. Each right entitles the holder to purchase one one-hundredth of a share of Series A Participating Preferred Stock, at a purchase price of \$8.50, subject to certain antidilution adjustments. The rights will expire 10 years after issuance and will be exercisable if (a) a person or group becomes the beneficial owner of 15% or more of the Company's common stock or (b) a person or group commences a tender or exchange offer that would result in the offeror beneficially owning 15% or more of the Company's common stock (a "Stock Acquisition Date"). If a Stock Acquisition Date occurs, each right, unless redeemed by the Company at \$0.01 per right, entitles the holder to purchase an amount of the Company's common stock, or in certain circumstances a combination of securities and/or assets or the common stock of the acquirer, having an equivalent market value of \$17.00 per right at a purchase price of \$8.50. Rights held by the acquiring person or group will become void and will not be exercisable. These rights have not been distributed as of September 30, 2005.

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

The shares of Preferred Stock are convertible at any time at the option of the holders into shares of Common Stock based upon the liquidation value, as defined, at a fixed conversion rate of \$4.00 per share. In addition, all outstanding shares of Preferred Stock will be automatically converted into shares of Common Stock in the event that the Common Stock has an average thirty-day trading price of at least \$5.50 per share, provided that we have filed and obtained effectiveness of a Registration Statement (as described below) prior to such thirty-day period.

Each holder of Preferred Stock is entitled to receive cumulative dividends at a rate of \$0.32 per share per annum (or 8%) out of our legally available funds or other assets, which are payable semi-annually. We have recorded a dividend of \$76,221 for the year ended September 30, 2005. We have the option to pay such dividends in cash or, if a Registration Statement has been filed with and declared effective by the SEC (as described below), shares of Common Stock. The dividend and liquidation rights of the Preferred Stock are senior to those of the Common Stock. As long as at least 270,000 shares of Preferred Stock are outstanding, the shares of Preferred Stock, voting as a class, have the right and power to elect one director to our Board of Directors.

With respect to all other matters submitted to a vote of our shareholders, each holder of Preferred Stock is entitled to that number of votes equal to the number of whole shares of Common Stock into which such holder's shares of Preferred Stock could then be converted. The Preferred Stock has anti-dilution protection in certain events, including certain preemptive rights.

Pursuant to the subscription agreements, we are obligated to file a registration statement ("Registration Statement") covering re-offers and resales of Common Stock to be issued to the holders of Preferred Stock in accordance with the Certificate of Designations, Preferences and Privileges as soon as reasonably practicable after we are eligible to file a Registration Statement on Form S-3. We plan on filing the Registration Statement in December 2005.

8. Commitments and Contingencies

Legal Proceedings — We may be subject to various legal proceedings and claims that arise in the ordinary course of business. We currently believe that resolving these matters will not have a material adverse impact on our financial condition or results of operations.

Operating Leases — The Company leases buildings, vehicles and equipment under operating leases. Rental expense under such operating leases was \$611,000, \$497,000 and \$361,000 in 2005, 2004 and 2003, respectively. As of September 30, 2005, future minimum rental commitments under non-cancelable operating leases with initial or remaining terms of one year or more totaled \$1,273,000, of which \$540,000, \$352,000, \$223,000, \$111,000 and \$47,000 is payable in 2006, 2007, 2008, 2009 and 2010 respectively.

9. Major Customers and Foreign Sales

No customer accounted for 10% or more of net revenues during 2005. One customer represented approximately 10% of net revenues during 2004. Two customers represented 15% and 12% of net revenues, respectively, during 2003.

The Company's net revenues were to customers in the following geographic regions:

	Years Ended September 30,		
	2005	2004	2003
North America (including 36%, 30% and 25% from the United States)	40%	36%	26%
Asia (including 16%, 9% and 8% from Taiwan)	36%	33%	44%
Europe	24%	31%	30%
	<u>100%</u>	<u>100%</u>	<u>100%</u>

10. Business Segment Information

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

Information concerning our business segments is as follows:

	Years Ended September 30,		
	2005	2004	2003
Net revenues:			
Semiconductor equipment	\$20,668,562	\$13,215,077	\$14,133,370
Polishing supplies	<u>7,230,562</u>	<u>6,083,820</u>	<u>5,300,164</u>
	<u>\$27,899,124</u>	<u>\$19,298,897</u>	<u>\$19,433,534</u>
Operating income (loss):			
Semiconductor equipment	\$ (929,858)	\$ (2,253,933)	\$ (192,790)
Polishing supplies	<u>791,560</u>	<u>149,236</u>	<u>(52,633)</u>
	(138,298)	(2,104,697)	(245,423)
Interest income (expense), net	<u>(35,845)</u>	<u>3,425</u>	<u>35,744</u>
Loss before income taxes	<u>\$ (174,143)</u>	<u>\$ (2,101,272)</u>	<u>\$ (209,679)</u>
Capital expenditures:			
Semiconductor equipment	\$ 251,349	\$ 328,097	\$ 153,735
Polishing supplies	<u>32,222</u>	<u>751,014</u>	<u>52,572</u>
	<u>\$ 283,571</u>	<u>\$ 1,079,111</u>	<u>\$ 206,307</u>
Depreciation and amortization expense:			
Semiconductor equipment	\$ 515,251	\$ 422,088	\$ 398,118
Polishing supplies	<u>159,369</u>	<u>88,183</u>	<u>85,879</u>
	<u>\$ 674,620</u>	<u>\$ 510,271</u>	<u>\$ 483,997</u>

		As of September 30,	
		2005	2004
Identifiable assets:			
Semiconductor equipment		\$13,677,987	\$12,830,102
Polishing supplies		4,023,198	3,829,428
		<u>\$17,701,185</u>	<u>\$16,659,530</u>
Goodwill:			
Semiconductor equipment		\$ 88,802	\$ 88,802
Polishing supplies		727,837	727,837
		<u>\$ 816,639</u>	<u>\$ 816,639</u>

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

		Years Ended September 30,		
		2005	2004	2003
Net revenues:				
United States		\$16,690,906	\$ 9,528,256	\$ 8,450,156
The Netherlands		11,208,217	9,770,641	10,983,378
		<u>\$27,899,124</u>	<u>\$19,298,897</u>	<u>\$19,433,534</u>
Operating income (loss):				
United States		\$ (458,339)	\$ (885,831)	\$ (454,924)
The Netherlands		320,041	(1,218,866)	209,501
		<u>\$ (138,298)</u>	<u>\$ (2,104,697)</u>	<u>\$ (245,423)</u>
		As of September 30,		
		2005	2004	2003
Net Long-lived Assets (excluding intangibles and goodwill)				
United States		\$1,197,308	\$1,523,775	\$ 702,055
The Netherlands		742,156	709,771	833,452
		<u>\$1,939,464</u>	<u>\$2,233,546</u>	<u>\$1,535,507</u>

11. Income Taxes

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

		Year Ended September 30,		
		2005	2004	2003
Current:				
Domestic Federal		\$ (24,000)	\$ (79,000)	\$(236,000)
Foreign		—	—	86,000
Domestic state		110,000	13,000	38,000
		<u>86,000</u>	<u>(66,000)</u>	<u>(112,000)</u>
Deferred:				
Domestic Federal		—	875,000	39,000
Foreign		—	—	—
Domestic state		—	255,000	(37,000)
		<u>—</u>	<u>1,130,000</u>	<u>2,000</u>
		<u>\$ 86,000</u>	<u>\$1,064,000</u>	<u>\$(110,000)</u>

	Year Ended September 30,		
	2005	2004	2003
Benefit at the statutory federal rate	\$(59,000)	\$ (714,000)	\$ (71,000)
Effect of permanent book-tax differences	30,000	13,000	(19,000)
State tax provision	44,000	2,000	(20,000)
Valuation allowance for net deferred tax assets	81,000	1,768,000	—
Other items	(10,000)	(5,000)	—
	<u>\$ 86,000</u>	<u>\$1,064,000</u>	<u>\$(110,000)</u>

Deferred income taxes reflect the tax effects of temporary differences between the carrying value of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

The tax effects of temporary book-tax differences that give rise to significant portions of the deferred tax asset and deferred tax liability are as follows:

	September 30,	
	2005	2004
Allowance for doubtful accounts	\$ 79,000	\$ 67,000
Uniform capitalization of inventory costs	121,000	169,000
Inventory write-downs not currently deductible	586,000	651,000
State net operating losses	136,000	120,000
Federal net operating losses	552,000	274,000
Book vs. tax depreciation	(82,000)	(68,000)
Unrealized currency gains	(1,000)	(1,000)
Deferred profit	223,000	352,000
Liabilities not currently deductible	<u>241,000</u>	<u>204,000</u>
	1,855,000	1,768,000
Valuation allowance	<u>(1,855,000)</u>	<u>(1,768,000)</u>
Net deferred tax assets	<u>\$ —</u>	<u>\$ —</u>

The Company has \$1,873,000 of Arizona state net operating loss carryforwards at September 30, 2005 that begin to expire in 2007. The Company also has \$1,625,000 of Federal net operating loss carryforwards at September 30, 2005 that begin to expire in 2023. The Company's ability to utilize its net operating losses to offset future taxable income may be limited under Internal Revenue Code Section 382 change in ownership rules.

Statement of Financial Accounting Standards ("SFAS") No. 109 "Accounting for Income Taxes" ("SFAS 109") requires that 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. A review of all available positive and negative evidence needs to be considered, including a company's performance, the market environment in which the company operates and the length of carry back and carryforward periods. SFAS 109 further states that forming a conclusion that a valuation allowance is not needed is difficult when there is negative evidence such as cumulative losses in recent years. Therefore, cumulative losses weigh heavily in the overall assessment. As a result of the review undertaken at September 30, 2004, we concluded that it was appropriate to establish a full valuation allowance for net deferred tax assets.

12. Selected Quarterly Data (Unaudited)

	<u>First Quarter</u>	<u>Second Quarter</u>	<u>Third Quarter</u>	<u>Fourth Quarter</u>
Fiscal Year 2005:				
Revenue	\$7,171,722	\$8,915,155	\$5,506,773	\$ 6,305,474
Gross margin	\$2,134,513	\$2,506,675	\$1,731,998	\$ 1,295,266
Net income (loss)	\$ 68,473	\$ 503,330	\$ 131,711	\$ (962,512)
Net income (loss) per share:				
Basic	\$ 0.03	\$ 0.19	\$ 0.04	\$ (0.37)
Shares used in calculation	2,705,121	2,705,121	2,705,121	2,705,138
Diluted	\$ 0.02	\$ 0.18	\$ 0.04	\$ (0.37)
Shares used in calculation	2,759,653	2,753,522	3,177,480	2,705,138
Fiscal Year 2004:				
Revenue	\$3,920,771	\$5,631,423	\$4,834,950	\$ 4,911,753
Gross margin	\$1,188,997	\$1,587,785	\$1,099,707	\$ 72,194
Net income (loss)	\$ 1,862	\$ 97,515	\$ (249,560)	\$(3,015,089)
Net income (loss) per share:				
Basic	\$ —	\$ 0.04	\$ (0.09)	\$ (1.11)
Shares used in calculation	2,700,084	2,700,671	2,702,313	2,705,121
Diluted	\$ —	\$ 0.03	\$ (0.09)	\$ (1.11)
Shares used in calculation	2,802,739	2,787,533	2,702,313	2,705,121

- (i) Beginning with the fourth quarter of 2004, amounts include the operations of Bruce Technologies, Inc. acquired July 1 of that year from Kokusai.
- (ii) The third quarter of 2005 includes recognition \$0.5 million of previously deferred profit in excess of the profit on sales of that quarter deferred to future periods.
- (iii) The fourth quarter of fiscal 2004 includes the \$0.6 million of write-downs of the inventory, including \$0.3 million related to the Bruce Technologies acquisition, and the recording of a \$1.8 valuation allowance for all deferred tax assets as of September 30th of 2004.

13. Acquisition

On July 1, 2004, we acquired, through our wholly owned subsidiaries, Bruce Technologies, Inc. and Tempres Systems, Inc., certain semiconductor horizontal diffusion furnace operations and assets in the United States and Europe from Kokusai Semiconductor Equipment Corporation and its affiliate Kokusai Electric Europe, GmbH. The cost of the net assets acquired was approximately \$3.6 million, including \$3.3 million paid at closing and \$0.3 million of transaction costs.

The assets acquired principally consist of intellectual property and technology, customer lists, customer contracts, trademarks, non-compete agreements, inventories and other tangible property used in connection with the acquired business. Liabilities assumed include obligations under certain contracts, leases, purchase orders and warranty claims for certain products and services under warranty as of the date of the acquisition.

The seller's cost of the domestic inventory was \$3.2 million for which we paid \$2.2 million. If we sell or consume in operations domestic inventory received in the acquisition in excess of \$2.2 million, we will make contingent payments for the quantities used based upon the seller's cost of the inventory, with such contingent payments capped at \$1.0 million.

The valuation of intangible assets was determined with the assistance of an independent third-party consultant. The fair value of intangible assets was determined by a valuation approach that estimates the future economic benefit stream of the asset. This benefit stream was then discounted to present value with an appropriate risk-adjusted discount rate.

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

		<u>Useful Life</u>
Assets Acquired:		
Inventories	\$2,346,000	
Intangible assets:		
Non-compete agreements	350,000	10 years
Customer relationships	276,000	15 years
Trademarks and trade names	592,000	Indefinite
Backlog/acquired contracts	50,000	6 months
Technology	102,000	4 years
Property, plant and equipment	54,000	
Goodwill	89,000	
Total assets acquired	<u>3,859,000</u>	
Liabilities Assumed:		
Accrued warranty expense	108,000	
Severance liability	<u>152,000</u>	
Total liabilities assumed	<u>260,000</u>	
Net assets acquired	<u>\$3,599,000</u>	

The following condensed consolidated pro forma financial information was prepared assuming that the acquisition had occurred at the beginning of the year ended September 30, 2004. This pro forma information does not necessarily reflect the results of operations that would have occurred had the acquisition taken place at the beginning of the period and is not necessarily indicative of results that may be obtained in the future (unaudited):

	<u>Years Ended September 30,</u>	
	<u>2005</u>	<u>2004</u>
Revenues	\$27,899,124	\$26,971,000
Net loss	\$ (258,998)	\$ (2,478,000)
Net loss per share:		
Basic	\$ (.12)	\$ (.92)
Diluted	\$ (.12)	\$ (.92)

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

On May 18, 2005, Amtech Systems Inc. (the “Company”) received notification that the firm of KPMG LLP (“KPMG”) had declined to stand for reappointment as the Company’s independent accountants and that the client-audit relationship between the Company and KPMG had ceased.

During the two years ended September 30, 2004 and the subsequent interim period ended May 18, 2005, there were no disagreements between the Company and KPMG on any matters of accounting principles or practices, financial statement disclosure or auditing scope or procedure, which, if not resolved to the satisfaction of KPMG, would have been referred to in their reports. KPMG’s report on the Company’s financial statements for the two years ended September 30, 2004 did not contain an adverse opinion or a disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principles. In addition, during the two years ended September 30, 2004 and the subsequent interim period through May 18, 2005, there were no reportable events (as defined in Item 304(a)(1)(v) of Securities and Exchange Commission Regulation S-K).

ITEM 9A. CONTROLS AND PROCEDURES

Our management, including our Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), has carried out an evaluation of the effectiveness of our disclosure controls and procedures as of September 30, 2005, pursuant to Exchange Act Rules 13a-15(e) and 15(d)-15(e). Based upon that evaluation, our CEO and CFO have concluded that as of such date, our disclosure controls and procedures in place were effective as of the end of the period covered by this annual report.

There have been no changes in our internal controls over financial reporting during the fourth quarter of fiscal 2005 that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

Pursuant to Paragraph G(3) of the General Instructions to Form 10-K, the information required by Part III of Form 10-K are incorporated by reference to Amtech’s Definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with its 2006 Annual Meeting of Stockholders (the “Proxy Statement”).

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

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

ITEM 11. EXECUTIVE COMPENSATION

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

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

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

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

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

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

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

PART IV**ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K**

- (a) (1) The consolidated financial statements required by this item are set forth on the pages indicated at Item 8.
- (2) All financial statement schedules are omitted because they are either not applicable, or because the required information is shown in the consolidated financial statements or notes thereto.
- (3) Exhibits: The response to this section of Item 15 is included in the Exhibit Index of the Annual Report and is incorporated herein by reference.

SIGNATURES

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

AMTECH SYSTEMS, INC.

December 29, 2005

By: /s/ Jong S. Whang

Jong S. Whang, President
and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT EACH PERSON WHOSE SIGNATURE APPEARS BELOW CONSTITUTES AND APPOINTS JONG S. WHANG AND ROBERT T. HASS, AND EACH OF THEM, HIS TRUE AND LAWFUL ATTORNEYS-IN-FACT AND AGENTS, WITH FULL POWER OF SUBSTITUTION AND RESUBSTITUTION, FOR HIM AND IN HIS NAME, PLACE AND STEAD, IN ANY AND ALL CAPACITIES, TO SIGN ANY AND ALL AMENDMENTS TO THIS ANNUAL REPORT ON FORM 10-K, AND TO FILE THE SAME, WITH ALL EXHIBITS THERETO, AND OTHER DOCUMENTS IN CONNECTION THEREWITH WITH THE SECURITIES AND EXCHANGE COMMISSION, GRANTING UNTO SAID ATTORNEYS-IN-FACT AND AGENTS, AND EACH OF THEM, FULL POWER AND AUTHORITY TO DO AND PERFORM EACH AND EVERY ACT AND THING REQUISITE AND NECESSARY TO BE DONE IN AND ABOUT THE PREMISES, AS FULLY AND TO ALL INTENTS AND PURPOSES AS HE MIGHT OR COULD DO IN PERSON HEREBY RATIFYING AND CONFIRMING ALL THAT SAID ATTORNEYS-IN-FACT AND AGENTS, OR HIS SUBSTITUTE OR SUBSTITUTES, MAY LAWFULLY DO OR CAUSE TO BE DONE BY VIRTUE HEREOF.

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

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/ Jong S. Whang</u> Jong S. Whang	Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)	December 29, 2005
<u>/s/ Robert T. Hass</u> Robert T. Hass	Vice President — Finance, Chief Financial Officer and Director (Principal Financial & Accounting Officer)	December 29, 2005
<u>/s/ Robert M. Averick</u> Robert M. Averick	Director	December 29, 2005
<u>/s/ Lawrence D. Firestone</u> Lawrence D. Firestone	Director	December 29, 2005
<u>/s/ Robert F. King</u> Robert F. King	Director	December 29, 2005

Exhibit Index

EXHIBIT NO.	<u>DESCRIPTION</u>	<u>METHOD OF FILING</u>
3.1	Articles of Incorporation	A
3.2	Articles of Amendment to Articles of Incorporation, dated April 27, 1983	A
3.3	Articles of Amendment to Articles of Incorporation, dated May 19, 1987	B
3.4	Articles of Amendment to Articles of Incorporation, dated May 2, 1988	C
3.5	Articles of Amendment to Articles of Incorporation, dated May 28, 1993	D
3.6	Articles of Amendment to Articles of Incorporation, dated March 14, 1999	E
3.7	Certificate of Designations, Preferences and Privileges of the Series A Convertible Preferred Stock, dated April 21, 2005	O
3.8	Amended and Restated Bylaws	F
4.1	Rights Agreement dated May 17, 1999	G
4.2	Form of Subscription Agreement for the Series A Convertible Preferred Stock	O
10.1	Amended and Restated 1995 Stock Option Plan	H
10.2	Non-Employee Directors Stock Option Plan	I
10.3	Amendment to Non-Employee Directors Stock Option Plan effective July 8, 2005	*
10.4	Employment Agreement with Robert T. Hass, dated May 19, 1992	J
10.5	Registration Rights Agreement with J.S. Whang, dated January 24, 1994	D
10.6	1998 Employee Stock Option Plan (Amended as of March 29, 2002)	K
10.7	Warrant to Purchase Common Stock, dated September 8, 2000	L
10.8	Stock and Warrant Purchase Agreement, dated September 8, 2000	L
10.9	Employment Agreement, dated March 15, 2001, between the Registrant and Jong S. Whang	M
10.10	Asset Purchase Agreement, dated May 3, 2004, by and between Kokusai Semiconductor Equipment Corporation and the Company.	N
10.11	Amendment, dated June 25, 2004, to the Asset Purchase Agreement by and between Kokusai Semiconductor Equipment Corporation and the Company.	N
10.12	Amendment, dated July 1, 2004, to the Asset Purchase Agreement by and between Kokusai Semiconductor Equipment Corporation and the Company.	N
10.13	Asset Purchase Agreement, dated May 3, 2004, by and between Kokusai Electric Europe GmbH and the Company.	N
10.14	Amendment, dated June 25, 2004, to the Asset Purchase Agreement by and between Kokusai Electric Europe GmbH and the Company.	N
10.15	Warrant to Purchase Common Stock, dated April 22, 2005	*
16	Letter from KPMG LLP declining to stand for reappointment	P
21	Subsidiaries of the Registrant	*
23.1	Consent of Independent Registered Public Accounting Firm — Mayer Hoffman McCann P.C.	*
23.2	Consent of Independent Registered Public Accounting Firm — KPMG LLP	*
24	Powers of Attorney	**
31.1	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended	*
31.2	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended	*
32.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	*
32.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	*

* Filed herewith.

** SEE SIGNATURE PAGE.

- A Incorporated by reference to Amtech's Form S-1 Registration Statement No. 2-83934-LA.
- B Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1987.
- C Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1988.
- D Incorporated by reference to Amtech's Form S-1 Registration Statement (File No. 33-77368).
- E Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1999.
- F Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1991.
- G Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on May 17, 1999.
- H Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the Amended and Restated 1995 Stock Option Plan), filed with the Securities and Exchange Commission on August 9, 1996.
- I Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the Non-Employee Director Stock Option Plan), filed with the Securities and Exchange Commission on August 9, 1996.
- J Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1993.
- K Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the 1998 Employee Stock Option Plan), filed with the Securities and Exchange Commission on February 11, 2003.
- L Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on September 22, 2000.
- M Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2001.
- N Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on July 15, 2004.
- O Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on April 28, 2005.
- P Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 24, 2005.

AMTECH SYSTEMS, INC.

EXECUTIVE OFFICERS

J.S. WHANG
PRESIDENT,
CHIEF EXECUTIVE OFFICER
AND DIRECTOR

ROBERT T. HASS
VICE PRESIDENT – FINANCE,
CORPORATE SECRETARY
AND DIRECTOR

INDEPENDENT DIRECTORS

ROBERT M. AVERICK
DIRECTOR AND
VICE PRESIDENT-PORTFOLIO MANAGER
OF RICHARD L. SCOTT INVESTMENTS, LLC
STAMFORD CONNECTICUT

LAWRENCE D. FIRESTONE
DIRECTOR AND CHIEF FINANCIAL OFFICER,
SECRETARY AND TREASURER OF
APPLIED FILMS CORPORATION
LONGMONT, COLORADO

ROBERT F. KING
DIRECTOR AND PRESIDENT
OF KING ASSOCIATES
SURPRISE, ARIZONA

CORPORATE INFORMATION

CORPORATE OFFICES

131 SOUTH CLARK DRIVE
TEMPE, ARIZONA 85281
TEL: (480) 967-5146
FAX: (480) 968-3763

E-MAIL: Corporate@AmtechSystems.com

LEGAL COUNSEL

SQUIRE, SANDERS & DEMPSEY LLP
TWO RENAISSANCE SQUARE
40 NORTH CENTRAL AVE., SUITE 2700
PHOENIX, ARIZONA 85004

TRANSFER AGENT & REGISTRAR

COMPUTERSHARE TRUST COMPANY
350 INDIANA STREET, SUITE 800
GOLDEN, CO 80401
TEL: (303) 262-0889
FAX: (303) 262-0603

E-MAIL: DenTeam2@computershare.com

WEBSITE: <http://www-us.computershare.com/>

INDEPENDENT AUDITORS

MAYER HOFFMAN McCANN P.C.
3101 NORTH CENTRAL AVENUE, SUITE 300
PHOENIX, ARIZONA 85012
TEL: (602) 264-6835
FAX: (602) 265-7631

STOCK MARKET INFORMATION

LISTED ON NASDAQ NATIONAL MARKET

COMMON STOCK SYMBOL: ASYS

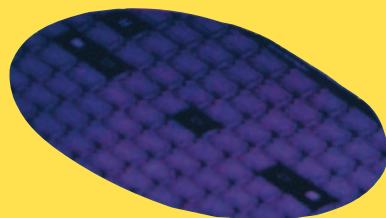
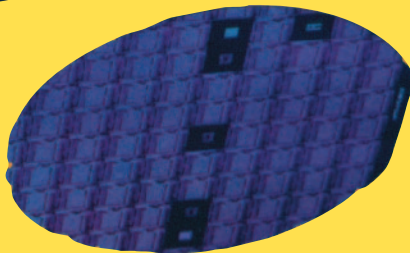
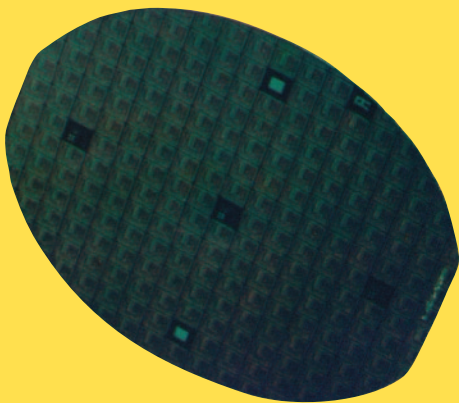
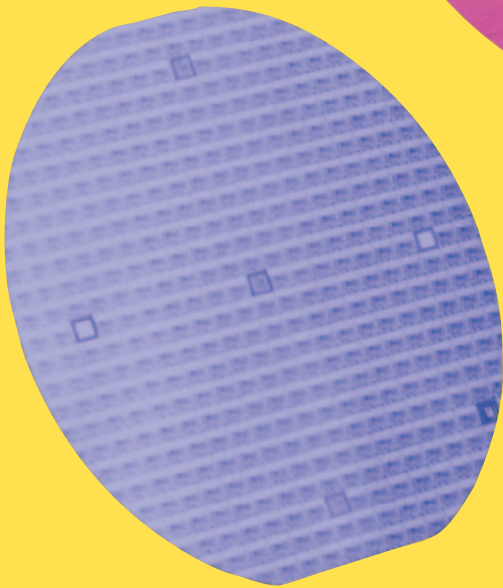
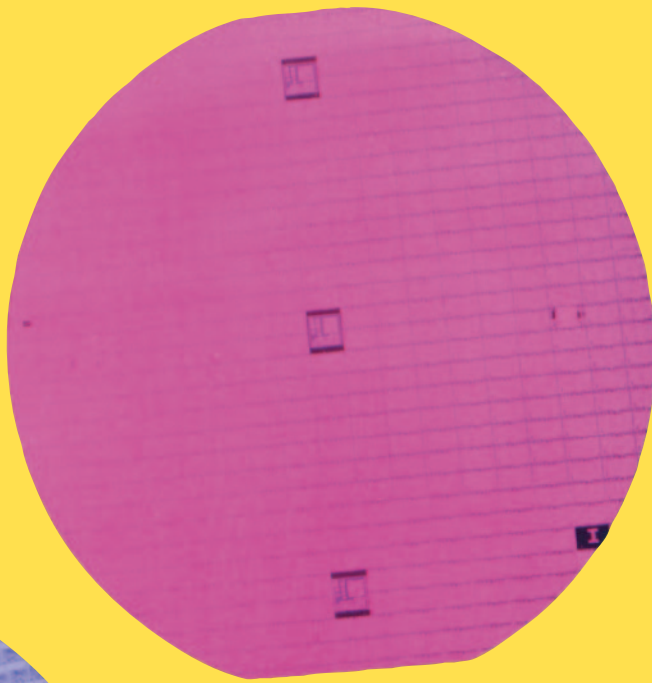
WEBSITE: WWW.NASDAQ.COM

SUBSIDIARIES

BRUCE TECHNOLOGIES, INC.
BILLERICA, MASSACHUSETTS

TEMPRESS SYSTEMS, INC.
HEERDE, THE NETHERLANDS

P.R. HOFFMAN MACHINE PRODUCTS, INC.
CARLISLE, PENNSYLVANIA



AMTECH SYSTEMS, INC.

131 SOUTH CLARK DRIVE
TEMPE, ARIZONA 85281

UNITED STATES

TEL: (480) 967-5146

FAX: (480) 968-3763

E-MAIL: CORPORATE@AMTECHSYSTEMS.COM