AMTECH SYSTEMS INC
Form 10-K
November 15, 2010

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

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended: September 30, 2010

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
(Title of Class)

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

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 [X]

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. [X] Yes [ ] No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). [ ] Yes [ ] No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405) 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. [X]

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

Large accelerated filer [ ] Accelerated filer [X] Non-accelerated filer [ ] (do not check if a smaller reporting company) [ ] Smaller Reporting Company

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

As of March 31, 2010, the aggregate market value of the voting and non-voting stock held by non-affiliates of the registrant was approximately $90,343,000, based upon the closing sales price reported by the NASDAQ Global Market on that date.

As of November 5, 2010, the registrant had outstanding 9,214,079 shares of Common Stock, $0.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Definitive Proxy Statement related to the registrant's 2010 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, 2010, are incorporated by reference into Items 10-14 of Part III of this Form 10-K.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
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FORWARD-LOOKING STATEMENTS

Certain information contained or incorporated by reference in this Annual Report on Form 10-K is forward-looking in nature. All statements included or incorporated by reference in this Annual Report on Form 10-K, or made by management of Amtech Systems, Inc. and its subsidiaries ("the Company" or "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," "plan "anticipates," "intends," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology. expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in the section entitled "ITEM 1A. RISK FACTORS." These and many other factors could affect Amtech's future operating results and financial condition, and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Amtech or on its behalf.

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

PART I

ITEM 1. BUSINESS

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

We are a leading supplier of horizontal diffusion furnace systems used for solar (photovoltaic) cell and semiconductor manufacturing, and are recognized in the markets we serve for our technology and our brands. Our solar and semiconductor equipment is sold under the well-known and respected brand names of Tempress Systems and Bruce Technologies, which have customers in both the solar industry and the semiconductor industry. Within the solar industry, we provide diffusion and automation equipment to solar cell manufacturers and we also offer PECVD (plasma enhanced chemical vapor deposition) and PSG (phosphocilicate glass) equipment. Within the semiconductor industry, we provide equipment to manufacturers of analog, power, automotive and microcontroller chips with geometries greater than 0.3 micron, a strategy we believe minimizes direct competition with significantly larger suppliers of semiconductor equipment. Under the PR Hoffman brand, we believe we are also a leading supplier of insert carriers to manufacturers of silicon wafers, and we provide lapping and polishing consumable products as well as equipment used in various industries, including fabrication of LEDs, optics, quartz, ceramics, metal parts and medical equipment components.

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

For fiscal 2010, we recognized net revenue of $120.0 million, which included $99.0 million of solar revenue or approximately 82% of our total revenue. These results compare to $53.0 million of net revenue for fiscal 2009, which included $34.8 million of solar revenue or approximately 66% of our total revenue. Our order backlog as of September 30, 2010 and 2009 was $94.4 million and $32.4 million, respectively, a 191% increase. Our backlog as of September 30, 2010 included approximately $85.3 million of orders from our solar industry customers compared to $27.9 million of orders from our solar industry customers as of September 30, 2009. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales in subsequent periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders.

Orders from the solar industry totaled $161.5 million during fiscal 2010, compared to $21.8 million and $73.3 million in fiscal 2009 and 2008, respectively. The solar book to bill ratio for fiscal years 2010 and 2009 is 1.5:1 and 0.6:1, respectively.

For information regarding risks to our business, see “ITEM 1A. RISK FACTORS.”

COMPETITIVE STRENGTHS

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

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

We have been providing horizontal diffusion furnaces and polishing supplies and equipment to our customers for over 30 years. We have sold and installed horizontal furnaces worldwide and benefit from what we believe to be the largest installed customer base in the semiconductor industry, which we believe offers an opportunity for replacement and expansion demand. We also have a retrofit, parts and service business, which has historically generated higher margins than our equipment business.

Experienced Management Team. We are led by a highly experienced management team. Our chief executive officer (CEO) has over 37 years of industry experience, including 29 years with our company. Our four general managers have an average of nearly 22 years of solar and semiconductor industry experience and an average of 21 years with our company (including our predecessor companies).

Established, Diversified Customer Base. We have long-standing relationships with many of our top customers, which we believe remain strong. We maintain a broad base of customers, including leading solar cell manufacturing companies, as well as semiconductor and wafer manufacturing companies. During fiscal 2010, our largest customer accounted for approximately 28% of our net revenue and our top 10 customers collectively represented approximately 72% of our net revenue. In fiscal 2009, our largest customer accounted for approximately 16% of our net revenue, and our top 10 customers collectively represented approximately 62% of our net revenue. In fiscal 2008, our largest customer accounted for approximately 20% of our net revenue, and our top 10 customers collectively represented approximately 62% of our net revenue. Yingli Green Energy (Yingli) accounted for 28%, 4% and 20% of our net revenue in fiscal 2010, 2009 and 2008, respectively. Yingli accounts for 25% of our accounts receivable balance as of September 30, 2010.

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

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

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

GROWTH STRATEGY

Capitalizing on Growth Opportunities in the Solar Industry. We have had success in penetrating the solar market. Our orders for solar diffusion and automation systems in fiscal 2010 totaled $161.5 million. Our fiscal 2009 solar orders totaled $21.8 million compared to $73.3 million in fiscal 2008. We believe that our success with solar cell manufacturers is due to our focused process and product development and marketing efforts, as well as the growing overall demand from the solar industry. We believe that long-term growth in the solar industry will be driven by rising energy demand, the increasing scarcity of traditional energy resources coupled with rising prices, the growing adoption of government incentives for solar energy due to increasing environmental awareness and concern about energy independence, the gradually decreasing cost of solar energy and the changing consumer preferences toward renewable energy sources.

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

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

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

SOLAR AND SEMICONDUCTOR INDUSTRIES

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

Solar Industry. Solar power has emerged as one of the most rapidly growing renewable energy sources. To date, various technologies have been developed to harness solar energy. The most significant technology is the use of interconnected photovoltaic, or PV, cells to generate electricity directly from sunlight. Most PV cells are constructed using specially processed silicon, which, when exposed to sunlight, generates direct current electricity. Solar energy has many advantages over other existing renewable energy sources and traditional non-renewable energy sources in the areas of environmental impact, delivery risk, distributed nature of generation and matching of peak generation with demand.

Semiconductor Industry. Semiconductors control and amplify electrical signals and are used in a broad range of electronic products, including: consumer electronic products, computers, wireless telecommunication devices, communications equipment, automotive electronic products, major home appliances, industrial automation and control systems, robotics, aircraft, space vehicles, automatic controls and high-speed switches for broadband fiber optic telecommunication networks. Semiconductors, or semiconductor “chips,” solar cells and optical components are manufactured primarily on a silicon wafer and are part of the circuitry or electronic components of many of the products listed above.

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

Although the semiconductor market has experienced significant growth over the past fifteen years, it remains cyclical by nature. The market is characterized by short-term periods of under or over supply for most semiconductors, including microprocessors, memory, power management chips and other logic devices. When demand decreases, semiconductor manufacturers typically slow their purchasing of capital equipment. Conversely, when demand increases, so does capital spending.

Industry Manufacturing Processes

Solar Cell Manufacturing Process Flow Chart

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

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

(1) inspecting for resistivity and mechanical integrity and splitting wafers;

(2) etching away saw damage with sodium hydroxide and rinsing the wafer with water and concentrated sulphuric acid;

(3) diffusing phosphorous oxychloride on the wafer;

(4) etching the wafer with hydrofluoric acid to remove the undiffused, phosphorus-silica-glass layer;

(5) coating an antireflective layer through a chemical vapor deposition (CVD) or plasma enhanced CVD process;

(6) printing rear side contacts;

(7) drying to prevent condensation in the wafer area;

(8) printing aluminum and silver paste on the back surface field to prevent recombination of generated electrons and holes;

(9) drying;

(10) printing front side contacts;

(11) drying and then sintering the contact to form electrical conductive contacts; and

(12) testing and sorting the solar cells into electrical efficiency categories.

Most solar cell manufacturers sell their products to manufacturers of solar modules or solar panels. Others are vertically integrated and use their cells in the production of solar modules and panels. Solar cells are the critical component of solar modules and solar panels, which are sold to the end user and used in residential homes, industrial applications, remote pumping, lighting and heating uses and central power stations.

Semiconductor Front End Manufacturing Process Flow Chart

* Manufacturing process steps which are performed using our products.

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

(1) forming an ingot by pulling molten silicon;

(2) slicing the silicon ingot into wafers of uniform thickness with a wire saw;

(3) lapping and polishing the silicon wafer to a mirror-like finish;

(4) cleaning the wafer;

(5) forming a thin film-layer of silicon dioxide on the wafer in a diffusion furnace where oxygen, hydrogen or a combination of the two is introduced to cause a chemical reaction (oxidation) with the silicon wafer's surface;

(6) diffusing impurities (doping) in order to change the wafer's electrical properties.

(7) depositing insulating or conducting layers on the wafer surface, which sometimes is accomplished in a diffusion furnace via a chemical reaction called chemical vapor deposition;

(8) coating and baking a photosensitive material, called photoresist, on the wafer;

(9) creating circuit patterns by exposing the wafer to light directed through a mask with circuit patterns;

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

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

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

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

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

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

SOLAR AND SEMICONDUCTOR EQUIPMENT PRODUCTS

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

Horizontal Diffusion Furnaces. Through our subsidiaries, Tempress and Bruce Technologies, we produce and sell horizontal diffusion furnaces. Our horizontal furnaces currently address several steps in the semiconductor manufacturing process, including diffusion (step 5 in the semiconductor manufacturing process previously described), phosphorus tetrachloride doping, or $POCl_3$ (step 6), low-pressure chemical vapor deposition, or LPCVD, (step 7), and annealing (step 13). Our horizontal furnaces also currently address diffusion and applying antireflective coating in the solar cell manufacturing process (steps 3 and 5).

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

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

PSG Dry Etch. The PSG dry etch process step in the manufacturing of solar cells removes phosphorus silicate glass (PSG) that naturally occurs during the diffusion process. We will use our license of this unique PSG technology, which will be manufactured by PST, to expand our presence in the growing solar market.

Plasma-Enhanced Chemical Vapor Deposition (PECVD). Our new solar PECVD product applies an anti-reflective coating to solar wafers; a coating critical to the efficiency of solar cells. This solar product adds another solar cell processing step to Amtech's offerings.

Automation Products – Semiconductor. Use of our automation products reduces human handling and, therefore, reduces exposure of wafers to particle sources during the loading and unloading of the process tubes and protects operators from heat and chemical fumes. The top reactor chamber of a horizontal furnace can be as much as eight feet from the floor on which the operator stands when manually loading wafer boats. Typical boats of 150mm to 300mm wafers weigh three to six pounds. Given these two factors, automating the wafer loading and unloading of a diffusion furnace improves employee safety and ergonomics in silicon wafer, solar cell and semiconductor manufacturing facilities.

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

Comet. Our Comet and Gemini series of wafer transfer systems include a wide range of throughputs and footprints to meet the needs of our customers who serve the semiconductor industry. Comet Sorter with Optical Character Recognition (OCR) is used in sorting, randomizing or compacting. The Comet Sorter is a cassette to cassette with OCR front and back scribe functions, notch alignment and SECSII communication. Comet ID Reader checks tag carriers then reads each wafer scribe. The Comet ID Reader sends the information to the host with SECSII Gem commands.

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

POLISHING SUPPLIES PRODUCTS

Our polishing supplies products 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 these products are sold to either semiconductor wafer manufacturers or specialty semiconductor fabricators. These products are also sold to fabricators of LED’s, optics, quartz, ceramics and metal parts, and to manufacturers of medical equipment components and computer disks. We manufacture the products described below in Pennsylvania and sell them under our PR Hoffman brand name.

Wafer Carriers. Carriers are work holders into which silicon wafers or other materials are inserted for the purpose of holding them securely in place during the lapping and polishing processes. We produce carriers for our line of lapping and polishing machines, as well as for those machines sold by our competitors. Substantially all of the carriers we produce are customized for specific applications. Insert carriers, our most significant category of carriers, contain plastic inserts molded onto the inside edge of the work-holes of the carrier, which hold the wafers in place during processing. Although our standard steel carriers are preferred in many applications because of their durability, rigidity and precise dimensions, they are typically not suited for applications involving softer materials or when metal contamination is an issue. Insert carriers, however, are well suited for processing large semiconductor wafers, up to 300mm in diameter, and other fragile materials or where contamination is an issue, because they provide the advantages of steel carriers while reducing the potential for damage to the edges of such sensitive materials. Our insert carriers are used for double-sided lapping or polishing of semiconductor wafers up to 300mm in diameter. We internally developed and began selling precision thickness wafer carriers in 2007.

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

Double-Sided Planetary Lapping and Polishing Machines. Double-sided lapping and polishing machines are designed to process thin and fragile materials, such as semiconductor silicon wafers, precision optics, computer disk media and ceramic components for wireless communication devices, to exact tolerances of thickness, flatness, parallelism and surface finish. On average, we believe that we offer our surface processing systems at a lower price than systems offered by our competitors and target the semiconductor, optics, quartz, ceramics, medical, computer disk and metal working markets. During fiscal 2004, we introduced and delivered our first Model 5400 lapping and polishing machine, capable of processing parts up to 19.5 inches in diameter, including 300mm wafers and higher capacities of smaller parts. This machine is our largest and is superior to our previous model, because it uses servo motors rather than hydraulics and is equipped with a Windows touch-screen interface, for better control of speeds and pressure, optional thickness control, and crash protection. We believe our 5400 model is especially well-suited for thin and fragile materials. We also produce and sell a wide assortment of plates, gears, parts and wear items for our own machines and those sold by many of our competitors.

MANUFACTURING, RAW MATERIALS AND SUPPLIES

Our solar and semiconductor equipment manufacturing activities consist primarily of engineering design, procurement and assembly of various commercial and proprietary components into finished diffusion furnace systems in Vaassen, The Netherlands, Montpellier, France, and Billerica, Massachusetts.

Nearly all of our fabricated parts for solar and semiconductor equipment are purchased from local suppliers. Our manufacturing activities in the polishing supplies and equipment business 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 solar and semiconductor equipment and lapping plates, are also purchased from suppliers who manufacture these items to our specifications.

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

Since much of our polishing supplies know-how relates to the manufacture of its products, this business’s facility is equipped to perform a significantly higher percentage of the fabrication steps required in the production of its products. However, injection molding for our insert carriers and the manufacture of raw cast iron plates are subcontracted out to various third parties. Our polishing supplies business relies on key suppliers for certain materials, including two steel mills in Germany and Japan, an injection molder, a single-sourced pad supplier from Japan and an adhesive manufacturer. To minimize the risk of production and service interruptions and/or shortages of key parts, we maintain appropriate inventories of key raw materials and parts. If for any reason we were unable to obtain a sufficient quantity of parts in a timely and cost-effective manner to meet our production requirements, our results of operations would be materially and adversely affected.

RESEARCH, DEVELOPMENT AND ENGINEERING

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

In April 2007, we entered into a licensing and manufacturing agreement to develop and market an antireflective coating system for solar cells with PST Co., LTD. ("PST"). PST is a producer of vertical thermal processing systems for high-end semiconductor applications. This plasma-enhanced chemical vapor deposition (PECVD) system is used in high-volume, solar cell manufacturing and is an important step in the solar cell manufacturing process. The licensing agreement allows us to market PST's existing PECVD system, and for PST to develop and manufacture a new PECVD model for us to market to high-volume solar cell manufacturers. In June 2008, we introduced the new PECVD system into the market.

In November 2008, the Company entered into a license agreement with PST to market PST's existing and future proprietary PSG (phosphorus silicate glass) dry etch systems for the manufacture of photovoltaic cells. We introduced the PSG system into the market in July 2009.

On April 9, 2009, the Company entered into amendments with PST to both the PSG license and the PECVD license to expand the licenses to include one future model of the PSG dry etch systems and three future models of the PECVD system.

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

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 research grants for research and development of products in The Netherlands, which are netted against our research and development costs. Our approach to such expenditures has allowed us to produce a number of new products while spending amounts that we believe are generally modest in relation to most solar and semiconductor equipment manufacturers. Our expenditures (net of grants earned) that have been accounted for as research and development were $2.1 million (1.8% of net revenue) for fiscal 2010, $0.5 million (1.0% of net revenue) for fiscal 2009 and $1.1 million (1.4% of net revenue) for fiscal 2008.

PATENTS

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

Product	Country	Expiration Date or Pending Approval
IBAL Model S-300	France,	March 21, 2021
	Germany,	Pending
	Italy,	Pending
	The Netherlands,	Pending
	United Kingdom	Pending
Heating Element Wire Spacer	Europe	Pending
RFID use in Carrier Products	United States	Pending
Photo CVD	United States	November 15, 2011
Charge Control	United States	Pending
Potential Damage-free Asher	United States	September 8, 2018
IBAL Model S-300	United States	July 7, 2019
IBAL Model S-300	United States	July 26, 2019
IBAL Model E-300	United States	July 13, 2021
Fast, Safe, Pyrogenic External Torch Assembly (*)	United States	December 17, 2011
Lapping Machine adjustable mechanism	United States	February 15, 2027

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

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

SALES AND MARKETING

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

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

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

During fiscal 2010, 93% of our net revenue came from customers outside of North America. This group represented 82% of revenues in fiscal 2009. In fiscal 2010, net revenue was distributed among customers in different geographic regions as follows: North America 7% (all of which is in the United States), Asia 84% (including 64% to China and 17% to Taiwan) and Europe 9%. During fiscal 2010, 2009 and 2008, three customers, individually, accounted for approximately 28%, 16%, and 20% of our net revenue, respectively. Yingli accounted for 28%, 4% and 20% of our net revenue in fiscal 2010, 2009 and 2008, respectively. Yingli accounts for 25% of our accounts receivable balance as of September 30, 2010. Our business is not seasonal in nature, but is cyclical based on the capital equipment investment patterns of solar cell and semiconductor manufacturers. These expenditure patterns are based on many factors, including anticipated demand for integrated circuits, the development of new technologies and global and regional economic conditions.

COMPETITION

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

The Solar Cell Semiconductor Devices, Semiconductor Wafer, and MEMS Markets. Our diffusion furnaces and automation processing equipment primarily compete with those produced by other domestic and foreign original equipment manufacturers, some of which are well-established firms that are much larger and have substantially greater financial resources than us. Some of our competitors have a diversified product line, making it difficult to quantify their sales of products that compete directly with our products. Competitors of our horizontal diffusion furnaces include Centrotherm GmbH, Koyo Systems Co. Ltd., Sandvik Thermal Process, Inc., a subsidiary of Sandvik AB, 48 Institute, CVD Equipment, Inc., Semco Engineering S.A., Expertech, Inc. and Tystar Corporation. Competitors of our lapping and polishing machines and supplies include Lapmaster International, LLC, Hamai Co., Ltd., Speedfam Co., Ltd., Onse, Inc. and Eminess Technologies, Inc. Such competition could intensify in the future if the industry trend to produce smaller chips on larger wafers accelerates, or the newer technology represented by vertical furnaces results in a material shift in the purchasing habits of our targeted customers. Our furnaces and lapping and polishing machines also face, to a limited, but increasing extent, competition from used equipment on the low-end of the price spectrum.

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

EMPLOYEES

As of September 30, 2010, we employed approximately 360 people. Of these employees, approximately 10 were based at our corporate offices in Tempe, Arizona, 30 at our manufacturing plant in Carlisle, Pennsylvania, 20 at our manufacturing plant in Billerica, Massachusetts, 240 at our facilities in The Netherlands and 60 at our facilities in France. Of the approximately 30 people employed at our Carlisle, Pennsylvania facility, 16 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.

AVAILABLE INFORMATION

Our annual, quarterly and current reports, proxy statements and other information, including the amendments to those reports, are available, without charge, on our website, www.amtechsystems.com, as soon as reasonably practicable after they are filed electronically with the Securities and Exchange Commission ("SEC"). In addition, our SEC filings are available over the internet at the SEC's website at http://www.sec.gov.

You may also read and copy any document that we file at the SEC's public reference room at:

Public Reference Room
100 F Street, N.E.
Washington, D.C. 20549
1-800-SEC-0330

Please call the SEC at 1-800-SEC-0330 for more information on the public reference room and their copy charges. Copies of our key governance documents, code of ethics, and charters of our audit, compensation and corporate governance committees are also available on our website.

Information contained on our website is not part of this Annual Report and is not incorporated in this Annual Report by reference.

ITEM 1A. RISK FACTORS

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

Risks Related to our Business and Industry.

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

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

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

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

Since our business has historically been subject to cyclical industry conditions, we have experienced significant fluctuations in our quarterly new orders and net revenue, both within and across years. Demand for solar semiconductor and silicon wafer manufacturing equipment and related consumable products has also been volatile as a result of sudden changes in solar and semiconductor supply and demand and other factors in both semiconductor devices and wafer fabrication processes. Our orders tend to be more volatile than our revenue, as any change in demand is reflected immediately in orders booked, which are net of cancellations, while revenue tends to be recognized over multiple quarters as a result of procurement and production lead times and the deferral of certain revenue under our revenue recognition policies. Customer delivery schedules on large system orders can also add to this volatility since we generally recognize revenue for new product sales on the date of customer acceptance or the date the contractual customer acceptance provisions lapse. As a result, the fiscal period in which we are able to recognize new products revenue is typically subject to the length of time that our customers require to evaluate the performance of our equipment after shipment and installation, which could cause our quarterly operating results to fluctuate.

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

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

During a severe 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.

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

The revenue of our solar and semiconductor equipment business is comprised primarily of sales of horizontal diffusion furnaces and our automation products. Our automation products are useable only with horizontal diffusion furnaces. There is a trend in the semiconductor industry, related to the trend to produce smaller chips on larger wafers, towards the use in semiconductor manufacturing facilities of newer technology, such as vertical diffusion furnaces. Vertical diffusion furnaces are more efficient than the horizontal diffusion furnaces in certain manufacturing processes for smaller chips on larger wafers. As early as 1994, we had expected that demand for our horizontal diffusion furnaces would decline as a result of this trend. We believe this trend has not yet adversely affected us to the extent originally expected. However, to the extent that the trend to use vertical diffusion furnaces over horizontal diffusion furnaces continues, our revenue may decline and our corresponding ability to generate income may be adversely affected. A significant part of our growth strategy involves expanding our sales to the solar industry. The solar industry is subject to risks relating to industry shortages of polysilicon, (which we discuss further below), the continuation of government incentives, the availability of specialized capital equipment, global energy prices and rapidly changing technologies offering alternative energy sources. If the demand for solar industry products declines, the demand by the solar industry for our products would also decline and our financial position and results of operations would be harmed.

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

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

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

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

The Company makes substantial investments in its organization to develop new products for the solar industry. Sales of our products to the solar industry are subject to substantial risks.

The solar energy sector is partially dependent upon governmental subsidies that are not guaranteed to continue. A decline in these subsidies would reduce our ability to grow our business in this market.

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

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

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

Historically, our product development has been accomplished through cooperative efforts with key customers. Our relationship with some customers is substantially dependent on personal relations established by our Chairman and Chief Executive Officer. Furthermore, our relationship with a major European customer that has been instrumental in the development of our small batch vertical furnace is substantially dependent upon our President. While there can be no assurance that such relationships will continue, such cooperation is expected to continue to be a significant element in our future development efforts thereby continuing our reliance on certain of our key personnel.

We are the beneficiary of life insurance policies on the life of our Chairman and Chief Executive Officer, Mr. J. S. Whang, in the amount of $2.0 million, but there is no assurance that such amount will be sufficient to cover the cost of finding and hiring a suitable replacement for Mr. Whang. It may not be feasible for any successor to maintain the same business relationships that Mr. Whang has established. If we were to lose the services of Mr. Whang for any reason, it could have a material adverse affect on our business.

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

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

Success in the solar and semiconductor equipment industries 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. To realize future growth through technical innovations in the solar and semiconductor industries, we must either acquire the technology through merger and acquisition activity or through the licensing of products from our technology partners. Our failure to 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, could have a material adverse affect on our business.

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

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

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

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

The rapid change in technology in our industry requires that we continue to make investments in research and development in order to enhance the performance and functionality of our products, to keep pace with competitive products and to satisfy customer demands for improved performance, features and functionality. There can be no assurance that revenue from future products or enhancements will be sufficient to recover the development costs associated with such products or enhancements, or that we will be able to secure the financial resources necessary to fund future development. Research and development costs are typically incurred before we confirm the technical feasibility and commercial viability of a product, and not all development activities result in commercially viable products. In addition, we cannot ensure that products or enhancements will receive market acceptance, or that we will be able to sell these products at prices that are favorable to us. 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, it could have a material adverse affect on our business.

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

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

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

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

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

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

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

We currently sell to a relatively small number of customers, and we expect our operating results will likely continue to depend on sales to a relatively small number of customers for the foreseeable future, as well as the ability of these customers to sell products that require our products in their manufacture. Yingli accounted for 28%, 4% and 20% of our net revenue in fiscal 2010, 2009 and 2008, respectively. Many of our customer relationships have been developed over a short period of time and certain customers are in their preliminary stages of development. The loss of sales to any of these customers would have a significant negative impact on our business. Our agreements with these customers may be cancelled if we fail to meet certain product specifications, materially breach the agreement or in the event of bankruptcy, and our customers may seek to renegotiate the terms of current agreements or renewals. We cannot be certain that these customers will generate significant revenue for us in the future nor that these customer relationships will continue to develop. If our relationships with our other customers do not continue to develop, we may not be able to expand our customer base or maintain or increase our revenue.

As of September 30, 2010, three customers individually accounted for 25%, 11% and 11% accounts receivable, respectively. Yingli accounts for 25% of our accounts receivable balance as of September 30, 2010. A concentration of our receivables from one or a small number of customers places us at risk. If any one or more of our major customers does not pay us it could adversely affect our financial position and results of operations. We attempt to manage this credit risk by performing credit checks, by requiring significant partial payments prior to shipment where appropriate and by actively monitoring collections. We also require letters of credit of certain customers depending on the size of the order, type of customer or its creditworthiness and its country of domicile.

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

Our backlog includes orders for large systems, such as our diffusion furnaces, with system prices of up to and in excess of $1.0 million depending on the system configuration, options included and any special requirements of the customer. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our financial position and results of operations could be materially and adversely affected should any large systems order be cancelled prior to shipment, or not be accepted by the customer. We have experienced cancellations in the past. 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 collectability of our accounts receivable and our future operating results. Our backlog does not provide any assurance that we will realize revenue or profit from those orders or indicate in which period net revenue will be recognized, if ever.

Our business might be adversely affected by a decline in our sales to foreign customers, significant exchange rate fluctuations and foreign laws.

During fiscal 2009, 82% of our net revenue came from customers outside of North America. During fiscal 2010, 93% of our net revenue came from customers outside of North America as follows:

- Asia – 84% (includes 64% to China and 17% to Taiwan); and
- Europe – 9%.

Because of our significant dependence on revenue from international customers, our operating results could be negatively affected by a decline in the economies of any of the countries or regions in which we do business. Each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Periodic local or international economic downturns, trade balance issues, political instability and fluctuations in interest and currency exchange rates could negatively affect our business and results of operations. In addition, we face competition from a number of suppliers based in Asia that have certain advantages over suppliers from outside of Asia. These advantages include lower operating and regulatory costs, proximity to customers and favorable tariffs.

We recorded foreign currency transaction losses of $0.4 million during fiscal 2010. In 2009 and 2008, foreign currency transaction gains and losses were less than $0.1 million. While our business generally has not been materially affected in the past by currency fluctuations, there is a risk that it may be materially adversely affected in the future. Such risk includes possible losses due to currency exchange rate fluctuations, possible future prohibitions against repatriation of earnings, or proceeds from disposition of investments, and from possible social and military instability in the case of India, South Korea, Taiwan and possibly elsewhere. Our wholly-owned subsidiary, Tempress Systems, has conducted its operations in The Netherlands since 1995 and during 2005 we established a subsidiary in Germany to conduct the European sales of our Bruce Technologies product line. In October 2007 we completed our acquisition of R2D, a French company. As a result, such operations are subject to the taxation policies, employment and labor laws, transportation regulations, import and export regulations and tariffs, possible foreign exchange restrictions, international monetary fluctuations, and other political, economic and legal policies of that nation, the European Economic Union and the other European nations in which it conducts business. Consequently, we might encounter unforeseen or unfamiliar difficulties in conducting our European operations. Changes in such laws and regulations may have a material adverse effect on our revenue and costs. We are subject to the Foreign Corrupt Practices Act, which may place us at a competitive disadvantage to foreign companies that are not subject to similar regulations.

Significant raw material shortages, supplier capacity constraints, supplier production disruptions, supplier quality issues or price increases could increase our operating costs and adversely impact the competitive positions of our products.

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 vendors include suppliers of controllers, quartz and silicon carbide for our diffusion systems, two steel mills capable of producing the types of steel to the tolerances needed for our wafer carriers, an injection molder that molds plastic inserts into our steel carriers, an adhesive manufacturer that supplies the critical glue used in the production of the semiconductor polishing templates and a pad supplier that produces a unique material used to attach semiconductor wafers to the polishing template. We also rely on third parties for certain machined parts, steel frames and metal panels and other components used particularly in the assembly of solar and semiconductor production equipment.

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

We may not be able to generate sufficient cash flows or obtain access to external financing necessary to fund and expand our operations as planned.

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

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

Section 404 of the Sarbanes-Oxley Act of 2002 requires our management to report on the effectiveness of our internal control over financial reporting. Our independent registered public accounting firm is required to attest to the effectiveness of our internal control over financial reporting beginning in fiscal 2010. We have an ongoing program to perform the system and process evaluation and testing necessary to comply with these requirements. We have incurred increased expense and have devoted additional management resources to Section 404 compliance and we expect that some increased expense and use of management resources will continue in the future. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the controls system are met. Because of the inherent limitations in all controls systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. If, in the future, our CEO, chief financial officer or independent registered public accounting firm determines that our internal control over financial reporting is not effective as defined under Section 404, investor perceptions of our company may be adversely affected and could cause a decline in the market price of our stock.

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

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

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

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

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

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

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

The Company's income taxes are subject to variables beyond our control.

The Company's net income and cash flow may be adversely affected by conditions affecting income taxes which are outside the Company's control. Examples of the potential uncontrollable circumstances that could affect our tax rate:

- The Company sells and operates globally in the United States, Europe and Asia. Disagreement could occur on the jurisdiction of income and taxation among different governmental tax authorities. Potential areas of dispute may include transfer pricing, intercompany charges and intercompany balances.

- Tax rates may increase and, therefore, have a material adverse affect on our earnings and cash flows.

Most of our production, storage, and administrative facilities are located in close proximity to one another in The Netherlands. Any damage or disruption at these facilities would have a material adverse effect on our business, financial condition and results of operations.

Our production, storage and administrative facilities are located in close proximity to one another in The Netherlands. A natural disaster or other unanticipated catastrophic event, including power interruption, and war, could significantly disrupt our ability to manufacture our products and operate our business. If any of our productions facilities or material equipment were to experience any significant damage or downtime, we would be unable to meet our production targets and our business would suffer.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

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

Location	Use	Size	Monthly Rent	Lease Expiration
Solar and semiconductor Equipment Segment				
Tempe, AZ	Corporate	15,000 sf	$12,000	(1)
Billerica, MA	Office, Mfg. & Warehouse	30,000 sf	$18,000	8/31/2011
Heerde, The Netherlands	Office & Mfg.	10,000 sf	Owned	N/A
Vaassen, The Netherlands	Office, Warehouse & Mfg.	54,000 sf	Owned	N/A
Vaassen, The Netherlands	Warehouse	23,000 sf	$11,000	10/31/2011
Vaassen, The Netherlands	Production	38,000 sf	$18,000	2/28/2012
Vaassen, The Netherlands	Warehouse	23,000 sf	$11,000	3/31/2013
Clapiers, France	Office, Mfg. & Warehouse	12,000 sf	$9,000	9/30/2016 (2)
Clapiers, France	Manufacturing	3,000 sf	$3,000	3/30/2016
Le Cres, France	Warehouse	3,000 sf	$2,000	(3)
Polishing Supplies Segment				
Carlisle, PA	Office & Mfg.	22,000 sf	$11,000	6/30/2019

(1) We are currently leasing this property on a month to month basis.

(2) This lease can be cancelled by the company with six months notice beginning October 1, 2010.

(3) We are currently leasing this property on a month to month basis. We are required to give six months notice of cancellation.

ITEM 3. LEGAL PROCEEDINGS

None.

ITEM 4. REMOVED AND RESERVED

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET INFORMATION

Our common stock, par value $0.01 per share ("Common Stock"), began trading on the NASDAQ Global Market (formerly the NASDAQ National Market), under the symbol "ASYS," on April 18, 2001. From 1983 to 2001, our Common Stock was traded on the NASDAQ SmallCap Market. On November 5, 2010, the closing price of our Common Stock as reported on the NASDAQ Global Market was $18.27 per share. The following table sets forth the high and low bid price at which the shares of our Common Stock traded for each quarter of fiscal 2010 and 2009, as reported by the NASDAQ Global Market.

	Fiscal 2010		Fiscal 2009	
	High	Low	High	Low
First quarter	$ 11.44	$ 4.90	$ 9.64	$ 2.25
Second quarter	$ 13.09	$ 8.01	4.60	2.62
Third quarter	$ 10.32	$ 8.25	5.97	3.02
Fourth quarter	$ 18.57	$ 8.14	6.11	4.20

COMPARISON OF STOCK PERFORMANCE

The following line graph compares cumulative total shareholder return, assuming reinvestment of dividends, for: the Company's Common Stock, the NASDAQ Composite Index and the NASDAQ Industrial Index. Because the Company did not pay dividends on its Common Stock during the measurement period, the calculation of the cumulative total shareholder return on the Company's Common Stock did not include dividends. The following graph assumes that $100 was invested on October 1, 2005.

HOLDERS

As of November 05, 2010, there were 582 shareholders of record of our Common Stock. Based upon a recent survey of brokers, we estimate there were approximately an additional 6,158 beneficial shareholders who held shares in brokerage or other investment accounts as of that date.

DIVIDENDS

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

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table sets forth certain information, as of September 30, 2010, 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.

Plan Category	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)
Equity compensation plans approved by security holders (1)	636,283	7.59	973,337
Equity compensation plans not approved by security holders	-		-
Total	636,283		973,337

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

COMPANY PURCHASES OF EQUITY SECURITIES

The Company did not repurchase any of its shares during Fiscal 2010. As of September 30, 2010, $3.6 million was authorized and available for the repurchase of shares by the Company.

ITEM 6. SELECTED FINANCIAL DATA

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

	Years Ended September 30,				
	2010	2009	2008 (1)	2007	2006
Operating Data:					
Net revenue	$ 120,019	$ 52,973	$ 80,296	$ 45,984	$ 40,445
Gross profit	$ 42,712	$ 15,019	$ 22,961	$ 12,810	$ 10,575
Gross profit %	35.6%	28.4%	28.6%	27.9%	26.1%
Operating income (loss)	$ 15,909	$ (1,938)	$ 3,802	$ 1,741	$ 1,635
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857	$ 2,417	$ 1,318
Dividends on convertible preferred stock	$ -	$ -	$ -	$ -	$ (81)
Net income (loss) attributable to common	$ 9,563	$ (1,589)	$ 2,857	$ 2,417	$ 1,237
Earnings (loss) per share:					
Basic earnings (loss) per share	$ 1.06	$ (0.18)	$ 0.33	$ 0.45	$ 0.40
Diluted earnings (loss) per share	$ 1.04	$ (0.18)	$ 0.32	$ 0.44	$ 0.38
Order backlog(2)	$ 94,427	$ 32,357	$ 46,719	$ 22,866	$ 13,600
Balance Sheet Data:					
Cash and cash equivalents	$ 56,764	$ 42,298	$ 37,501	$ 18,370	$ 6,433
Working capital	$ 65,613	$ 55,868	$ 58,275	$ 30,492	$ 11,883
Current ratio	2.3:1	4.1:1	3.2:1	3.6:1	2.6:1
Total assets	$ 136,101	$ 92,526	$ 102,355	$ 50,666	$ 23,563
Total current liabilities	$ 50,816	$ 18,077	$ 26,159	$ 11,718	$ 7,337
Long-term obligations	$ 1,042	$ 644	$ 1,663	$ 744	$ 617
Convertible preferred stock	$ -	$ -	$ -	$ -	$ -
Total stockholders' equity	$ 84,243	$ 73,805	$ 74,533	$ 38,204	$ 15,609

(1) Effective October 1, 2007, the Company acquired 100% of the equity of R2D Automation.

(2) The backlog as of September 30, 2009, 2008, 2007 and 2006 includes $1.2 million, $1.3 million, $0.9 million and $0.9 million, respectively, of deferred revenue on which we realized no gross margin.

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

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

Introduction

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

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

Overview

We are a leading supplier of thermal processing systems, including related automation, parts and services, to the solar/photovoltaic, semiconductor, silicon wafer and MEMS industries and also offer PECVD (plasma-enhanced chemical vapor deposition) and PSG (phosphosilicate glass) equipment. We also manufacture polishing templates, steel carriers and double-sided polishing and lapping machines to fabricators of LED's, optics, quartz, ceramics and metal parts, and for manufacturers of medical equipment components. Due to the growth of our solar/photovoltaic business, the polishing supplies business is no longer a large enough portion of our total business to consider it a separate reportable segment.

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

In October 2007, we acquired 100% of the equity of R2D Automation (R2D), a solar cell and semiconductor automation equipment manufacturing company. The purpose of the acquisition was to expand our automation products which are used in solar diffusion and semiconductor manufacturing processes. The acquisition of the technology and business of R2D enhances our growth strategy by allowing us to increase revenue by offering to the solar industry an integrated system under the Tempress® brand.

In the third quarter of fiscal 2008, we reorganized the Bruce Technologies® operations to better position the company for profitability in light of lower plant utilization resulting from a slowdown in the semiconductor industry. As a result of this reorganization, we reduced the number of personnel and recorded a charge of $0.4 million in the third quarter of fiscal 2008.

In the second quarter of fiscal 2009, the Bruce Technologies® operations were further restructured to focus on the parts supply business. The restructuring included a reduction in the number of employees and a reduction in the amount of space required to operate the business. The restructuring resulted in a charge of $0.6 million. Also, due to the downturn in the semiconductor industry and deterioration in forecasted revenue and earnings at Bruce Technologies®, an impairment charge of $1.1 million was recorded in the second quarter of fiscal 2009.

Results of Operations

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

	Years Ended September 30,		
	2010	2009	2008
Net revenue	100.0%	100.0%	100.0%
Cost of sales	64.4%	71.6%	71.4%
Gross margin	35.6%	28.4%	28.6%
Selling, general and administrative	20.0%	27.9%	22.1%
Impairment and restructuring charges	0.5%	3.2%	0.4%
Research and development	1.8%	1.0%	1.4%
Operating income (loss)	13.3%	(3.7%)	4.7%
Interest and other income (expense), net	(0.2%)	(0.1%)	1.0%
Income before income (loss) taxes	13.1%	(3.8%)	5.7%
Income tax provision (benefit)	5.1%	(0.8%)	2.1%
Net income (loss)	8.0%	(3.0%)	3.6%

Fiscal 2010 compared to Fiscal 2009

Net Revenue

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

Net revenue for the years ended September 30, 2010 and 2009 was $120.0 million and $53.0 million, respectively; an increase of $67.0 million or 127%. Revenue increased primarily due to significantly higher demand in the solar industry, partially offset by an increase in the amount of revenue deferred. Net revenue from the solar market was $99.0 million and $34.8 million in fiscal 2010 and 2009, respectively; a 184% increase. Net revenue from all other markets served was $21.0 million in fiscal 2010 compared to $18.2 million in fiscal 2009, an increase of 15%, due primarily to increased demand from the semiconductor market.

Backlog

Our backlog as of September 30, 2010 and 2009 was $94.4 million and $32.4 million, respectively, a 191% increase. Our backlog as of September 30, 2010 included approximately $85.3 million of orders from our solar industry customers compared to $27.9 million of orders from solar industry customers as of September 30, 2009. The orders included in our backlog are generally credit approved customer purchase orders expected to ship within the next twelve months. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our backlog also includes revenue deferred pursuant to our revenue recognition policy, derived from orders that have already been shipped but which have not met the criteria for revenue recognition. At the end of fiscal 2010, three customers, individually accounted for 17%, 15% and 14% of our total backlog, respectively.

Gross Profit

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

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

Gross profit for the years ended September 30, 2010 and 2009 was $42.7 million and $15.0 million respectively; an increase of $27.7 million or 184%. Gross margin for fiscal 2010 and 2009 was 36% and 28% respectively. Increased gross profit and gross margins were driven by higher volumes which resulted in significantly more efficient capacity utilization, offset by higher deferred profit. In fiscal 2010, we had a net profit deferral of $6.8 million compared to a net recognition of $0.6 million of previously deferred profit in fiscal 2009.

Selling, General and Administrative Expenses

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

Total selling, general and administrative (SG&A) expenses for the year ended September 30, 2010 were $24.1 million or 20% of net revenue. For the year ended September 30, 2009, SG&A expenses were $14.8 million or 28% of net revenue. SG&A expenses include $1.0 million and $0.7 million of stock-based compensation expense for fiscal 2010 and 2009, respectively. The increase in SG&A expenses was primarily due to increased commissions related to higher revenues, higher compensation expense and increased shipping costs related to higher shipping volumes.

Impairment and Restructuring Charges

Impairment charges for the year ended September 30, 2010 were $0.6 million. Impairment and restructuring charges for the year ended September 30, 2009 were $1.7 million.

In April 2007, the Company entered into a license agreement with one of the Company’s technology partners to market, sell, install, service and manufacture machinery and equipment for the manufacturing of photovoltaic cells that employs PECVD Technology (Licensed Product) developed by the technology partner. Under the terms of this agreement the Company paid $1.0 million to the technology partner. The license agreement expires in January 2019. These payments are being amortized over the life of the agreement. Recently, several new competitors have entered the market and management has determined that the market opportunity for the licensed product has decreased. This recent development and the extended amount of time to develop the licensed product caused management to review the licensed product for impairment and recoverability.

It was determined that the carrying value of the license subject to amortization was not fully recoverable; therefore, an impairment charge of $0.6 million was recorded for the excess of carrying value over the fair value of the license. The fair value of the license was determined through estimates of the present value of future cash flows based upon the anticipated future use of the license.

The Bruce operations were restructured in the second quarter of fiscal 2009 to focus primarily on a parts supply business versus furnace systems sales. The restructuring resulted in a charge of $620,000 in the second quarter of fiscal 2009. We conducted an assessment of the ability to recover the carrying amount of long-lived assets of the Bruce operations. It was determined that the carrying value of the net assets was not fully recoverable; therefore, an impairment charge of $373,000 was recorded in the second quarter of fiscal 2009 for the excess of carrying value over the fair value of the customer list and non-compete agreement. The carrying values of goodwill ($89,000) and the Bruce trademark ($592,000) were also recorded as an impairment charge in the second quarter of fiscal 2009.

Research and Development

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

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Research and development	$ 2,986	$ 1,169	$ 1,114
Grants earned	(868)	(660)	(20)
Net research and development	$ 2,118	$ 509	$ 1,094

Research and development expenses increased primarily due to increases in research in the technology of solar (photovoltaic) cell manufacturing to increase cell efficiency. We receive reimbursements through governmental research and development grants which are netted against these expenses. As we have increased our research and development activity, we have also increased our efforts to receive grants to fund this research. As a result, the amount of grants earned in fiscal 2010 increased approximately 30%.

Income Tax Provision

Our effective tax rate was approximately 39% in fiscal 2010 and 21% in 2009. In fiscal 2009, we incurred operating losses which resulted in the recording of a tax benefit equal to 20.9% of our pretax loss. The effective tax rate was negatively impacted by higher permanent book-to-tax differences as a percentage of our pretax loss, the recording of tax on uncertain tax items and recording of additional valuation allowance on certain state deferred tax assets, including state net operating losses.

Our future effective income tax rate depends on various factors, such as the geographic composition of worldwide earnings, tax regulations governing each region, non-tax deductible expenses incurred and the effectiveness of our tax planning strategies.

Fiscal 2009 compared to Fiscal 2008

In fiscal 2009 and 2008, our business was reported under two reportable segments; the solar and semiconductor equipment segment and the polishing supplies segment. Following is our analysis of the results comparing these two fiscal years.

Net Revenue

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

Segment	Years Ended September 30, 2009 (dollars in thousands)	2008	Inc (Dec)	%
Solar and Semiconductor Equipment Segment	$ 47,307	72,029	(24,722)	(34%)
Polishing Supplies Segment	5,666	8,267	(2,601)	(31%)
Total Net Revenue	$ 52,973	$ 80,296	$ (27,323)	(34%)

Net revenue for the year ended September 30, 2009 decreased $27.3 million or 34% compared to the year ended September 30, 2008. Revenue from the Solar and Semiconductor Equipment Segment decreased $24.7 million or 34% due to significantly lower shipments to both the solar and the semiconductor industries, partially offset by a decrease in the amount of revenue deferred. The decrease in shipments was caused by lower sales volumes driven primarily by over-supply in the solar market and the global economic downturn and credit crisis. Within the solar and semiconductor equipment segment, net revenue from the solar market was $34.8 million and $50.1 million in fiscal 2009 and 2008, respectively. Net revenue from the semiconductor market was $12.5 million in fiscal 2009 compared to $21.9 million in fiscal 2008, a decrease of 43% due primarily to the downturn in the semiconductor industry. Revenue in the polishing supplies segment was $5.7 million and $8.3 million for the fiscal years ended September 30, 2009 and 2008, respectively. The decrease of $2.6 million, or 31%, in net revenue from the Polishing Supplies Segment is also due to the economic downturn and the downturn in the semiconductor industry as described above.

The supply-demand imbalance within the solar market, the downturn in the global economy, and the related credit crisis have caused some of our customers to delay or suspend their capacity expansion plans, which has resulted in lower orders. In addition, some of our customers have, and others may, request delays or cancellations in the shipment of their orders. A continuation of the global credit crisis and related downturn in the global economy is likely to negatively impact future revenues from both solar and semiconductor markets and could have a significant adverse affect on our results of operations and financial condition.

Backlog

Our backlog as of September 30, 2009 and 2008 was $32.4 million and $46.7 million, respectively, a 31% decrease. Our backlog as of September 30, 2009 included approximately $27.9 million of orders from our solar industry customers compared to $36.7 million of orders from solar industry customers as of September 30, 2008. The orders included in our backlog are generally credit approved customer purchase orders expected to ship within the next twelve months. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. The recent global credit crisis and related downturn in the global economy has caused many of our customers to delay or suspend their capacity expansion plans. As a result, the delivery times of many of the orders in our backlog may be delayed or even cancelled by our customers. Our backlog also includes revenue deferred pursuant to our revenue recognition policy, derived from orders that have already been shipped but which have not met the criteria for revenue recognition. The backlog as of September 30, 2009 and 2008 includes $1.2 million and $1.3 million, respectively, of open orders or deferred revenue on which we anticipate no gross margin. At the end of fiscal 2009 and 2008, 31% and 38% of our backlog consisted of open sales orders and deferred revenue from one customer, E-Ton Solar Tech, respectively.

Gross Profit

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

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

Segment	Years Ended September 30, 2009	2008	Inc (Dec)	%
	(dollars in thousands)			
Solar and Semiconductor Equipment Segment	$ 13,748	20,500	(6,752)	(33%)
Polishing Supplies Segment	1,271	2,461	(1,190)	(48%)
Total Gross Profit	$ 15,019	$ 22,961	$ (7,942)	(35%)
Gross Margin	28%	29%		

Gross profit for fiscal 2009 decreased $7.9 million, or 35%, to $15.0 million in fiscal 2009 from $23.0 million in fiscal 2008. Gross margin decreased slightly to 28% in fiscal 2009 from 29% in fiscal 2008. We recognized $0.6 million of previously deferred profit in fiscal 2009, net of deferrals, compared to a net deferral of $2.9 million of profit in fiscal 2008. Excluding the impact of the change in deferred profit, gross margin in the solar and semiconductor equipment segment decreased due primarily to lower sales volumes resulting in underutilization of existing plant capacity. Gross profit and gross margin in the polishing supplies segment were lower in fiscal 2009 as compared to fiscal 2008 due to lower sales volumes of polishing machines, carriers and templates.

Selling, General and Administrative Expenses

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

Segment	Years Ended September 30, 2009	2008	Inc (Dec)	%
	(dollars in thousands)			
Solar and Semiconductor Equipment Segment	$ 13,523	$ 16,267	$ (2,744)	(17%)
Polishing Supplies Segment	1,243	1,442	(199)	(14%)
Total SG&A	$ 14,766	$ 17,709	$ (2,943)	(17%)
Percent of net revenue	28%	22%		

Total selling, general and administrative (SG&A) expenses decreased $2.9 million or 17% in fiscal 2009 from fiscal 2008. SG&A expenses include $0.7 million and $0.5 million of stock-based compensation expense for fiscal 2009 and 2008, respectively. SG&A expenses for fiscal 2009 and 2008 include $0.2 million and $0.3 million, respectively, of costs related to compliance with the provisions of the Sarbanes-Oxley Act. The decrease in SG&A expenses was primarily due to decreased commissions on sales due to lower revenue generated in geographic regions where third-party sales representatives are utilized; primarily Asia. Additionally, other SG&A costs decreased in fiscal 2009 due to decreased shipping volumes and reduced costs related to reductions in workforce, mainly at our Bruce Technologies operation. Also, a $0.5 million provision was recorded in fiscal 2008 as an allowance for doubtful accounts for which there were no comparable expenses in fiscal 2009.

Impairment and Restructuring Charges

Segment	Years Ended September 30, 2009 (dollars in thousands)	2008	Inc (Dec)	%
Solar and Semiconductor Equipment Segment	$ 1,682	$ 356	$ 1,326	372%
Polishing Supplies Segment	-	-	-	0%
Total Impairment and Restructuring Charge	$ 1,682	$ 356	$ 1,326	372%

The Bruce Technologies operations are primarily dependent upon a mature segment of the semiconductor industry which is experiencing a significant downturn. The industry downturn resulted in recent operating losses and deterioration in forecasted revenue and earnings at Bruce Technologies. It is uncertain when, and to what extent, the markets served by Bruce Technologies will recover. Therefore, the Bruce Technologies operations were restructured in the second quarter of fiscal 2009 to focus on the parts supply business. The restructuring included a reduction in the number of employees and a reduction in the amount of space required to operate the business. The restructuring resulted in a charge of $0.6 million in the second quarter of fiscal 2009, which includes a $0.3 million charge for unutilized leased space, a $0.2 million write-off of furnace-related inventory parts that are not expected to be utilized in the future and $0.1 million of severance and outplacement costs. Our Bruce Technologies operations were also reorganized in the third quarter of fiscal 2008, which resulted in a restructuring charge of $0.4 million, consisting mainly of severance and outplacement costs for affected personnel.

Due to the circumstances related to the Bruce Technologies operations discussed above, the Company determined it was necessary to conduct an assessment of the ability to recover the carrying amount of long-lived assets of the Bruce Technologies operations. The amount estimated to be recoverable is based upon the Company's judgments and estimates of undiscounted cash flows during the estimated remaining useful life of the assets. It was determined that the carrying value of the net assets was not fully recoverable; therefore, an impairment charge of $0.4 million was recorded in the second quarter of fiscal 2009 for the excess of carrying value over the fair value of the customer list and non-compete agreement. Future adverse changes could be caused by, among other factors, a downturn in the industries served, 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.

As a result of the impairment of long-lived assets described above, it was necessary to conduct an interim review of the goodwill and Bruce Technologies trademark for impairment. The fair value of the assets group was determined through estimates of the present value of future cash flows based upon the anticipated future use of the assets. As the carrying value of the Bruce Technologies assets exceeded their estimated fair value, the carrying values of goodwill ($0.1 million) and the Bruce Technologies trademark ($0.6 million) were also recorded as an impairment charge in the second quarter of fiscal 2009.

The total amount of the impairment charge was $1.1 million. Details of the impairment charge are as follows:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Goodwill	$ 89	$ -	$ 89
Trademark	592	-	592
Customer List	276	87	189
Non-compete agreement	350	166	184
Impairment Charge			$ 1,054

Research and Development

Research and development expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes and the materials used in those processes and producing prototypes. Reimbursements of research and development costs in the form of governmental research and development grants are netted against these expenses.

	Years Ended September 30,			
	2009	2008	Inc (Dec)	%
Segment	(dollars in thousands)			
Semiconductor and Solar Equipment Segment	$ 509	$ 1,094	$ (585)	(53%)
Polishing Supplies Segment	-	-	-	0%
Total Research and Development	$ 509	$ 1,094	$ (585)	(53%)
Percent of net revenue	1%	1%		

Research and development expenses decreased primarily due to increases in the amount of reimbursement of research and development costs. In fiscal 2009 and 2008, we recognized $0.5 million and $0.1 million of reimbursements of our research and development costs from governmental grants. The remainder of the decrease in research and development expenses relate to a specific customer development program in fiscal 2008 that did not repeat in fiscal 2009.

Income Tax Provision

Our effective tax rate was 20.9% in fiscal 2009 and 37.1% in 2008. In fiscal 2009, we incurred operating losses which resulted in the recording of a tax benefit equal to 20.9% of our pretax loss. The effective tax rate was negatively impacted by higher permanent book-to-tax differences as a percentage of our pretax loss and recording of additional valuation allowance on certain state deferred tax assets, including state net operating losses.

Our future effective income tax rate depends on various factors, such as the geographic composition of worldwide earnings, tax regulations governing each region, non-tax deductible expenses incurred and the effectiveness of our tax planning strategies.

Liquidity and Capital Resources

As of September 30, 2010, and 2009, cash and cash equivalents were $56.8 million and $42.3 million, respectively. As of September 30, 2010, and 2009, restricted cash was $6.2 million and $1.5 million, respectively. Restricted cash increased $4.7 million due to receipt of customer deposits requiring bank guarantees collateralized by cash. Our working capital was $65.6 million as of September 30, 2010 and $55.9 million as of September 30, 2009. The increase in cash was primarily provided by cash from operating activities of $15.8 million, discussed below, and $1.3 million received from the exercise of stock options. This was offset by purchases of property, plant and equipment of $2.9 million. Our ratio of current assets to current liabilities decreased to 2.3:1 as of September 30, 2010 from 4.1:1 as of September 30, 2009. The decline in our current ratio was due to the simultaneous increase in our current assets and current liabilities as we ramped up inventory purchases to meet the growing order backlog. Current assets increased $42.5 million while current liabilities increased $32.7 million. The increase in customer orders is expected to result in higher operating levels and a potential reduction in cash due to increases in inventories and receivables and potential capital expenditures. We have never paid dividends on our Common Stock. Our present policy is to apply cash to investments in product development, acquisitions or expansion; consequently, we do not expect to pay dividends on Common Stock in the foreseeable future. We continue to have minimal long-term obligations to service.

The success of our growth strategy is dependent upon the availability of additional capital resources on terms satisfactory to management. Our sources of capital in the past have included the sale of equity securities, which include common and preferred stock sold in private transactions and public offerings, capital leases and long-term debt. There can be no assurance that we can raise such additional capital resources on satisfactory terms. We believe that our principal sources of liquidity discussed above are sufficient to support operations.

	Fiscal Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Net cash provided by (used in) operating activities	$ 15,800	$ 7,571	$ (2,596)
Net cash used in investing activities	$ (2,929)	$ (1,948)	$ (11,650)
Net cash provided by (used in) financing activities	$ 1,413	$ (590)	$ 33,316

Cash Flows from Operating Activities

Cash provided by our operating activities was $15.8 million and $7.6 million in fiscal 2010 and 2009 respectively, compared to cash used in operating activities of $2.6 million in fiscal 2008. During fiscal 2010 cash was primarily generated by earnings from operations, adjusted for non-cash charges. Additional cash was generated by increases in current liabilities, such as customer deposits received with sales orders, accounts payable, accrued compensation and deferred profit. These increases were offset by an increase in restricted cash due to customers requiring bank guarantees for their deposits; an increase in inventory necessary to fulfill our backlog of orders; an increase in accounts receivable due to the record volumes of shipments; as well as an increase in prepayments to vendors to take advantage of available discounts. During fiscal 2009, cash was generated primarily from collection of accounts receivable and reductions in inventory. This generation of cash was partially offset by decreases in accrued liabilities and customer deposits, accounts payable and deferred profit. During fiscal 2008, cash was primarily used to finance business growth, including increases in accounts receivable and inventory. This use of cash was partially offset each fiscal year by increases in accrued liabilities and customer deposits, deferred profit and accounts payable.

Cash Flows from Investing Activities

Our investing activities for fiscal 2010, 2009 and 2008 used cash of $2.9 million, $1.9 million and $11.7 million, respectively. During fiscal 2010, the company made capital expenditures of $2.9 million, including land in the Netherlands adjacent to our current manufacturing facilities for $1.0 million. We plan to use this land to expand our current facilities due to our rapid growth. We also invested in machinery and equipment and infrastructure due to our capacity expansion, primarily at our Netherlands location. During fiscal 2009, we invested $1.1 million, primarily in manufacturing equipment, research and development equipment and building improvements. In addition, we invested $0.5 million for a license to certain solar etching technology for the removal of PSG or phosphorus silica glass and $0.3 million, the remaining installment for the license of certain solar PECVD technology. During fiscal 2008, the most significant investments were the acquisition of R2D for $7.4 million and a $1.5 million investment for additional improvements to the manufacturing facility in The Netherlands. Another significant investment in fiscal 2008 was $0.4 million paid for a license for solar PECVD technology. Other investments in fiscal 2008 consisted primarily of purchases of manufacturing equipment and research and development equipment and upgrades to information systems.

Cash Flows from Financing Activities

Cash provided by financing activities was $1.4 million in fiscal 2010, which primarily consists of $1.3 million cash received due to employee exercises of stock options. Cash used in financing activities was $0.6 million in fiscal 2009, which primarily consists of $0.5 million to purchase our common stock under the fiscal 2009 repurchase program and $0.1 million in payments on long-term debt. Cash provided by our financing activities for fiscal 2008 was $33.3 million, which primarily consists of the $33.6 million raised in our Common Stock offering, net of expenses. Other financing activities during fiscal 2008 was mainly payments on debt of $0.8 million.

We currently anticipate that our existing cash balances will be sufficient to meet our anticipated cash needs for current operations for at least the next 12 months.

Off-Balance Sheet Arrangements

As of September 30, 2010, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K promulgated by the Securities and Exchange Commission.

Contractual Obligations and Commercial Commitments

We had the following contractual obligations and commercial commitments as of September 30, 2010:

Contractual obligations	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
		(dollars in thousands)			
Debt obligations	$ 158	$ 126	$ 32	$ -	$ -
Operating lease obligations:					
Buildings	2,864	938	785	522	619
Office equipment	70	41	29	-	-
Vehicles	264	123	129	12	-
Total operating lease obligations	3,198	1,102	943	534	619
Purchase obligations	40,103	40,103	-	-	-
Total	$ 43,459	$ 41,331	$ 975	$ 534	$ 619
Other commerical obligations:					
Bank guarantees	$ 6,192	$ 6,192	$ -	-	-

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 consolidated financial statements requires us to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the consolidated financial statements, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period.

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

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

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

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

(1) For our equipment business, 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 disproportionate in relation to the deferred revenue. When this is the case, the gross margin recognized in one period will be lower and the gross margin 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 later recognized 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) Sales of polishing supplies generally do not include process guarantees, acceptance criteria or holdbacks; therefore, the related revenue is generally recorded upon transfer of title which is generally at time of shipment.

(4) Sales of spare parts and consumables are recognized upon shipment, as there are no post shipment obligations other than standard warranties.

(5) Service revenue is recognized upon performance of the services requested by the customer. Revenue related to service contracts is recognized ratably over the period of the contract or in accordance with the terms of the contract, which generally coincides with the performance of the services requested by the customer.

Income taxes. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our operations and financial condition.

We are required to apply a more likely than not threshold to the recognition and derecognition of uncertain tax positions. We are required to recognize the amount of tax benefit that has a greater than 50 percent likelihood of being ultimately realized upon settlement. It further requires that a change in judgment related to the expected ultimate resolution of uncertain tax positions be recognized in earnings in the quarter of such change. Prior to adoption, our policy was to establish reserves that reflected the probable outcome of known tax contingencies.

Inventory Valuation. We value our inventory at the lower of cost or net realizable value. Costs for approximately 90% of inventory are determined on an average cost basis with the remainder determined on a first-in, first-out (FIFO) basis. 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. 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 or unwillingness of our customers to make required payments. This allowance is based on historical experience, credit evaluations, specific customer collection history and any customer-specific issues we have identified. Since a significant portion of our revenue is derived from the sale of high-value systems, our accounts receivable are often concentrated in a relatively few number of customers. A significant change in the liquidity or financial position of any one of these customers could have a material adverse impact on the collectability 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 acceptance 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, 2010, we cannot guarantee that we will continue to experience a similar level of predictability with regard to warranty costs. In addition, technological changes or previously unknown defects in raw materials or components may result in more extensive and frequent warranty service than anticipated, which could result in an increase in our warranty expense.

Impairment of Long-lived Assets. We periodically evaluate whether events and circumstances have occurred that indicate the estimated useful lives of long-lived assets or intangible assets may warrant revision or that the remaining balance may not be recoverable. Goodwill and indefinite-lived intangibles are 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. Below is a more detailed explanation of the procedures we perform.

We perform a two-step impairment test of goodwill and indefinite-lived intangible assets. In the first step, we estimate the fair value of the reporting unit and compare it to the carrying value of the reporting unit. When the carrying value exceeds the fair value of the reporting unit, the second step is performed to measure the amount of the impairment loss, if any. In the second step, the amount of the impairment loss is the excess of the carrying amount of the goodwill and other intangibles not subject to amortization over their implied fair value.

The methods used to estimate fair value of the reporting unit for the purpose of determining the implied fair value of goodwill include the market approach and discounted cash flows, as follows:

i. One valuation methodology used is to determine the multiples of market value of invested capital (“MVIC”) of similar public companies to their revenue for the last twelve months (“LTM”) and next twelve months (“NTM”), and apply those multiples to the revenue for the comparable periods of the reporting unit being tested for impairment. One benefit of this approach is it is the closest to quoted market prices that are readily available. However, we generally give less weight to this method, because the market value of the minority interest of public companies may not be that relevant to the fair value of our wholly-owned reporting units, which are not public companies. Also, MVIC to revenue for the LTM uses a historical value in the denominator, while the market values tend to be forward looking; and MVIC of revenue for the NTM involves the use of projections for both the comparable companies and the reporting unit.

ii. Another market approach that we sometimes use is based upon prices paid in merger and acquisition transactions for other companies in the same industry, again applying the MVIC to revenue of those companies to the historical and projected revenue of the reporting unit. When we use both market prices determined as described in (i), above, and prices paid in merger and acquisition transactions, we weight them to determine an indicated value under the market approach.

iii. As stated, we also use discounted cash flows as an indication of what a third-party would pay for the reporting unit in an arms-length transaction. This method requires projections of EBITDA (earnings before interest, taxes, depreciation and amortization) and applying an appropriate discount rate based on the weighted average cost of capital for the reporting unit.

We generally give the greatest weight, often 75% or more, to the discounted cash flow method, due to difficulty in identifying a sufficient number of companies that are truly comparable to a given reporting unit. This is because two of our three reporting units are relatively small businesses serving niche markets.

The material estimates and assumptions used in the discounted cash flows method of determining fair value include (i) the appropriate discount rate, given the risk-free rate of return and various risk premiums, (ii) projected revenues, (iii) projected material cost as a percentage of revenue, and (iv) the rate of increase in payroll and other expense. Quantitatively, the discount rate is the assumption that has the most pervasive effect on the discounted cash flows. We determine the discount rate used based on input from a valuation firm, which applies various approaches taking into account the particular circumstances of the reporting unit in arriving at a recommendation. For annual valuations, we test the sensitivity of the assumptions used in our discounted cash flow projection with the aid of a valuation firm, which utilizes a Monte Carlo simulation model, wherein various probabilities are assigned to the key assumptions.

In Fiscal 2009, we performed a mid-year test of the impairment of the goodwill and other intangibles due to changing circumstances regarding the Bruce Technologies reporting unit. This test required us to use judgments and estimates that could be materially different than actual results. Bruce Technologies continued to incur losses after a restructuring and cost reductions put into place during the prior fiscal year and expectations that semiconductor customers served by this reporting unit would not in the future achieve the kinds of growth rates they had in the past due to increased maturity of that industry. We used the same discount rate as used in the prior annual impairment test of this reporting unit, but the other assumptions became more conservative due to the changing circumstances. It was primarily the lowered projections of future revenue that resulted in a lower estimate of fair value and the impairment loss. The payroll and certain expense assumptions, however, were lowered to take into account a second restructuring of the reporting unit, which involved a significant reduction in the number of employees. The material cost assumption was also lowered to take into account a change in product mix.

Stock-Based Compensation. The Company measures compensation costs relating to share-based payment transactions based upon the grant-date fair value of the award. Those costs are recognized as expense over the requisite service period, which is generally the vesting period. The benefits of tax deductions in excess of recognized compensation cost are reported as cash flow from financing activities rather than as cash flow from operating activities.

Impact of Recently Issued Accounting Pronouncements

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

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Risk

We are exposed to foreign currency exchange rates to the extent sales contracts, purchase contracts, assets or liabilities of our European operations are denominated in currencies other than their functional currency, Our operations in Europe, a component of the solar and semiconductor equipment business, conduct business primarily in their functional currency, the Euro, and the U.S. dollar. Nearly all of the transactions, assets and liabilities of all other operating units are denominated in the U.S. dollar, their functional currency. In fiscal 2010 and fiscal 2009, the U.S. dollar, on average, strengthened relative to the Euro by 11% and 10%, respectively. It is highly uncertain how currency exchange rates will fluctuate in the future. Actual changes in foreign exchange rates could adversely affect our operating results or financial condition.

As of September 30, 2010, we did not hold any stand-alone or separate derivative instruments. We incurred net foreign currency transaction losses of $0.4 million and less than $0.1 million in fiscal 2010 and fiscal 2009, respectively. As of September 30, 2010, our foreign subsidiaries had $1.6 million of assets (cash and receivables) denominated in U.S. dollars, rather than Euros, which is their functional currency. A 10% change in the value of the functional currency relative to the non-functional currency would result in a gain or loss of $0.2 million. As of the end of fiscal 2010, we had $2.3 million of accounts payable, consisting primarily of amounts owed by foreign subsidiaries to our U.S. companies, denominated in U.S. dollars. Even though the intercompany accounts are eliminated in consolidation, a 10% change in the value of the Euro relative to the U.S. dollar would result in a gain or loss of $0.2 million. Our net investment in and long-term advances to our foreign operations totaled $58.3 million as of September 30, 2010. A 10% change in the value of the Euro relative to the U.S. dollar would cause an approximately $5.8 million foreign currency translation adjustment, a type of other comprehensive income (loss), which would be a direct adjustment to our stockholders' equity. In fiscal 2010, we recognized net other comprehensive income of $1.6 million from translation adjustments.

During fiscal 2010 and 2009, U.S. dollar denominated sales of our European operations were $1.7 million and $4.0 million, respectively. As of September 30, 2010, sales commitments denominated in a currency other than the functional currency of our transacting operation were than $1.3 million.

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

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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

Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders of

AMTECH SYSTEMS, INC.

We have audited the accompanying consolidated balance sheets of Amtech Systems, Inc. and subsidiaries (the "Company") as of September 30, 2010 and 2009, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the years in the three-year period ended September 30, 2010. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated 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 the Company as of September 30, 2010 and 2009, and the results of their operations and their cash flows for each of the years in the three-year period ended September 30, 2010 in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of September 30, 2010, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated November 15, 2010 expressed an unqualified opinion.

/s/ Mayer Hoffman McCann P.C.

Phoenix, Arizona
November 15, 2010

PART I FINANCIAL INFORMATION

ITEM 1. Consolidated Financial Statements

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

Assets	September 30, 2010	September 30, 2009
Current Assets		
Cash and cash equivalents	$ 56,764	$ 42,298
Restricted cash	6,192	1,496
Accounts receivable		
Trade (less allowance for doubtful accounts of $181 and $465 at September 30, 2010 and September 30, 2009, respectively)	9,252	8,409
Unbilled and other	15,231	5,156
Inventories	24,317	13,455
Deferred income taxes	2,130	2,290
Other	2,543	841
Total current assets	116,429	73,945
Property, Plant and Equipment - Net	9,577	8,477
Deferred Income Taxes - Long Term	2,660	1,140
Intangible Assets - Net	2,571	3,828
Goodwill	4,839	5,136
Other Assets	25	-
Total Assets	$ 136,101	$ 92,526

Liabilities and Stockholders' Equity	September 30, 2010	September 30, 2009
Current Liabilities		
Accounts payable	$ 12,446	$ 4,181
Current maturities of long-term debt	126	121
Accrued compensation and related taxes	8,305	2,877
Accrued warranty expense	1,843	1,429
Deferred profit	11,439	4,727
Customer deposits	8,858	2,861
Other accrued liabilities	1,479	1,721
Income taxes payable	6,320	160
Total current liabilities	50,816	18,077
Income Taxes Payable Long-term	1,010	480
Other Long-Term Obligations	32	164
Total liabilities	51,858	18,721
Commitments and Contingencies		
Stockholders' Equity		
Preferred stock; 100,000,000 shares authorized; none issued	-	-
Common stock; $0.01 par value; 100,000,000 shares authorized; shares issued and outstanding: 9,209,213 and 8,961,494 at September 30, 2010 and September 30, 2009, respectively	92	90
Additional paid-in capital	72,919	70,403
Accumulated other comprehensive income	(982)	661
Retained earnings	12,214	2,651
Total stockholders' equity	84,243	73,805
Total Liabilities and Stockholders' Equity	$ 136,101	$ 92,526

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

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements of Operations
(in thousands, except per share data)

	Years Ended September 30,		
	2010	2009	2008
Revenues, net of returns and allowances	$ 120,019	$ 52,973	$ 80,296
Cost of sales	77,307	37,954	57,335
Gross profit	42,712	15,019	22,961
Selling, general and administrative	24,075	14,766	17,709
Impairment and restructuring charges	610	1,682	356
Research and development	2,118	509	1,094
Operating income (loss)	15,909	(1,938)	3,802
Interest and other income (expense), net	(196)	(71)	745
Income (loss) before income taxes	15,713	(2,009)	4,547
Income tax provision (benefit)	6,150	(420)	1,690
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857
Income (Loss) Per Share:			
Basic income (loss) per share	$ 1.06	$ (0.18)	$ 0.33
Weighted average shares outstanding	9,022	9,019	8,719
Diluted income (loss) per share	$ 1.04	$ (0.18)	$ 0.32
Weighted average shares outstanding	9,237	9,019	8,846

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 Number of Shares	Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity
Balance at September 30, 2007	6,518	$ 65	$ 35,610	$ 813	$ 1,716	$ 38,204
Net income					2,857	2,857
Effect of the adoption of FIN 48					(333)	(333)
Translation adjustment				(746)		(746)
Comprehensive income						1,778
Issuance of common stock	2,500	25	33,549			33,574
Tax benefit of stock options			84			84
Stock compensation expense			473			473
Stock options exercised	78	1	419			420
Balance at September 30, 2008	9,096	$ 91	$ 70,135	$ 67	$ 4,240	$ 74,533
Net loss					(1,589)	(1,589)
Translation adjustment				594		594
Comprehensive loss						(995)
Share repurchase	(144)	(1)	(446)			(447)
Stock compensation expense			711			711
Restricted shares released	8	-				-
Stock options exercised	2	-	3			3
Balance at September 30, 2009	8,962	$ 90	$ 70,403	$ 661	$ 2,651	$ 73,805
Net income					9,563	9,563
Translation adjustment				(1,643)		(1,643)
Comprehensive income						7,920
Tax benefit of stock options			202			202
Stock compensation expense			987			987
Restricted shares released	34	-				-
Stock options exercised	214	2	1,327			1,329
Balance at September 30, 2010	9,210	$ 92	$ 72,919	$ (982)	$ 12,214	$ 84,243

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

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

	Year Ended September 30,		
	2010	2009	2008
Operating Activities			
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	1,763	1,559	1,339
Write-down of inventory	582	327	130
Provision for (reversal of) allowance for doubtful accounts	(56)	(57)	468
Deferred income taxes	(1,402)	25	(2,328)
Impairment of long-lived assets	610	1,062	-
Non-cash share based compensation expense	987	711	473
Changes in operating assets and liabilities:			
Change in restricted cash	(4,763)	1,421	(546)
Accounts receivable	(11,621)	9,118	(8,432)
Inventories	(12,128)	2,145	(7,288)
Accrued income taxes	6,549	(760)	421
Prepaid expenses and other assets	(1,752)	641	125
Accounts payable	8,436	(2,271)	1,264
Accrued liabilities and customer deposits	12,057	(4,128)	5,976
Deferred profit	6,975	(633)	2,945
Net cash provided by (used in) operating activities	15,800	7,571	(2,596)
Investing Activities			
Purchases of property, plant and equipment	(2,929)	(1,148)	(3,136)
Increase in restricted cash - non-current	-	645	(678)
Investment in R2D	-	(645)	(7,436)
Investment in note receivable	(1,000)	-	-
Proceeds from note receivable	1,000	-	-
Payment for licensing agreement	-	(800)	(400)
Net cash used in investing activities	(2,929)	(1,948)	(11,650)
Financing Activities			
Proceeds from issuance of common stock, net	1,328	3	33,994
Purchase of common stock under repurchase program	-	(448)	-
Payments on long-term obligations	(117)	(145)	(762)
Excess tax benefit of stock options	202	-	84
Net cash provided by (used in) financing activities	1,413	(590)	33,316
Effect of Exchange Rate Changes on Cash	182	(236)	61
Net Increase in Cash and Cash Equivalents	14,466	4,797	19,131
Cash and Cash Equivalents, Beginning of Year	42,298	37,501	18,370
Cash and Cash Equivalents, End of Year	$ 56,764	$ 42,298	$ 37,501
Supplemental Cash Flow Information:			
Interest paid	$ 80	$ 76	$ 244
Income tax refunds	665	1,450	96
Income tax payments	1,508	1,738	3,463
Supplemental Non-cash Financing Activities:			

Transfer inventory to capital equipment	-	116	-

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

Notes to Consolidated Financial Statements
For the Years Ended September 30, 2010, 2009 and 2008

1. Summary of Significant Accounting Policies

Nature of Operations and Basis of Presentation – Amtech Systems, Inc. (the "Company") designs, assembles, sells and installs capital equipment and related consumables used in the manufacture of wafers, primarily for the solar and semiconductor industries. The Company sells these products to manufacturers of solar cells, silicon wafers, and semiconductors worldwide, particularly in the Asia, United States and northern Europe. In addition, the Company provided semiconductor manufacturing support services through fiscal 2009.

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

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

Use of Estimates - The preparation of consolidated 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 consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

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

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

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

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

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

	September 30,		
	2010	2009	2008
	(dollars in thousands)		
Deferred revenues	$ 12,577	$ 6,904	$ 6,934
Deferred costs	1,138	2,177	1,582
Deferred profit	$ 11,439	$ 4,727	$ 5,352

Cash Equivalents – Cash equivalents consist of money market mutual funds invested in securities issued by the U.S. Government and its agencies and time certificates of deposit.

Restricted Cash – Current restricted cash of $6.2 million as of September 30, 2010 consists of collateral for bank guarantees required by certain customers from whom deposits have been received in advance of shipment. Current restricted cash of $1.5 million as of September 30, 2009 consists of collateral for bank guarantees of $1.0 million required by certain customers from whom deposits have been received in advance of shipment and cash in an escrow account related to contingent payments of $0.5 million paid in fiscal 2010 to the sellers of R2D upon the fulfillment of certain requirements.

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. A valuation allowance is established for accounts when collection is no longer probable. Accounts are written off against the allowance when the probability of collection is remote.

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

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Balance at beginning of year	$ 465	$ 588	$ 126
Provision / (adjustment)	(56)	(57)	468
Write offs	(228)	(66)	(50)
Acquired through business acquisitions	-	-	44
Balance at end of year	$ 181	$ 465	$ 588

Accounts Receivable - Unbilled and Other – Unbilled and other accounts receivable consist mainly of the contingent portion of the sales price that is not collectible until successful installation of the product. These amounts are generally billed upon final customer acceptance. The majority of these amounts are offset by balances included in deferred profit. As of September 30, 2010, the unbilled and other includes $2.2 million of Value Added Tax (VAT) receivables at our Netherlands operations. These are taxes that we have paid to our vendors that will be refunded to the Company by the government.

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

The Company maintains its cash, cash equivalents and restricted cash in multiple financial institutions. Balances in the United States are insured by the Federal Deposit Insurance Corporation (FDIC) up to $250,000 per institution. Balances on deposit exceed insured amounts. The Company also maintains cash in banks in The Netherlands and France that are uninsured. The Company has $62.2 million in cash and restricted cash that is not insured as of September 30, 2010.

As of September 30, 2010 three customers individually represented 25%, 11% and 11% of accounts receivable. As of September 30, 2009, receivables from three customers individually represented 19%, 11%, and 10% of accounts receivable, respectively

Refer to Note 8, Business Segments and Geographic Regions, for information regarding revenue and assets in other countries subject to fluctuation in foreign currency exchange rates.

Inventories –We value our inventory at the lower of cost or net realizable value. Costs for approximately 90% of inventory are determined on an average cost basis with the remainder determined on a first-in, first-out (FIFO) basis. The components of inventories are as follows:

	September 30, 2010	September 30, 2009
	(dollars in thousands)	
Purchased parts and raw materials	$ 12,894	$ 7,550
Work-in-process	9,497	3,277
Finished goods	1,926	2,628
	$ 24,317	$ 13,455

Property, Plant and Equipment - Property plant, and equipment are recorded at cost. Maintenance and repairs are charged to expense as incurred. The cost of property retired or sold and the related accumulated depreciation and amortization are removed from the applicable accounts when disposition occurs and any gain or loss is recognized. Depreciation and amortization is computed using the straight-line method. Depreciation expense was $1.3 million, $1.1 million and $1.0 million in fiscal 2010, 2009 and 2008, respectively. 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.

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

	September 30, 2010	September 30, 2009
	(dollars in thousands)	
Land, building and leasehold improvements	$ 8,099	$ 7,124
Equipment and machinery	4,918	4,295
Furniture and fixtures	3,991	3,404
	17,008	14,823
Accumulated depreciation and amortization	(7,431)	(6,346)
	$ 9,577	$ 8,477

Goodwill - Goodwill and intangible assets with indefinite lives are not subject to amortization, but are tested for impairment at least annually. Goodwill is reviewed for impairment on an annual basis, typically at the end of the fiscal year, or more frequently if circumstances dictate. Circumstances in the quarter ended March 31, 2009 required the Company to test long-lived assets for recoverability and impairment. See Note 10, “Impairment and Restructuring Charge” for a description of the facts and circumstances leading to the interim impairment test and the amount and method of calculating the impairment charge.

Intangibles - Intangible assets are capitalized and amortized over their useful life if the life is determinable. If the life is not determinable, amortization is not recorded. Amortization expense related to intangible assets was $0.4 million, $0.5 million and $0.4 million in fiscal 2010, 2009 and 2008, respectively. The aggregate amortization expense for the intangible assets for each of the five succeeding fiscal years is estimated to be $0.4 million in 2011, 2012, 2013, 2014 and 2015 and $0.6 million, thereafter.

Long-lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Circumstances in the quarter ended June 30, 2010 and March 31, 2009 required the Company to test long-lived assets for recoverability and impairment. See Note 10, “Impairment and Restructuring Charge” for a description of the facts and circumstances leading to the interim impairment test and the amount and method of calculating the impairment charge.

The following is a summary of intangibles:

	Useful Life	September 30, 2010	September 30, 2009
		(dollars in thousands)	
Non-compete agreements	8 years	$ 166	$ 178
Customer lists	10 years	876	940
Technology	10 years	1,737	1,863
Licenses	10 years	890	1,500
Other	2-10 years	90	96
		3,759	4,577
Accumulated amortization		(1,188)	(749)
		$ 2,571	$ 3,828

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

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Beginning balance	$ 1,429	$ 1,155	$ 256
Warranty expenditures	(622)	(942)	(602)
Assumed liability from acquisition	-	-	505
Reserve Adjustment	1,036	1,216	996
Ending balance	$ 1,843	$ 1,429	$ 1,155

Research and Development Expenses - Research and development expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes; materials and supplies used in those activities; and product prototyping. The Company receives reimbursements through governmental research and development grants which are netted against these expenses. The table below shows gross research and development expenses and grants earned:

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Research and development	$ 2,986	$ 1,169	$ 1,114
Grants earned	(868)	(660)	(20)
Net research and development	$ 2,118	$ 509	$ 1,094

Shipping expense – Shipping expenses of $2.5 million, $0.7 million and $1.0 million for fiscal 2010, 2009 and 2009 are included in selling, general and administrative expenses.

Foreign Currency Transactions and Translation – The functional currency of the Company's European operations is the Euro. Net income includes pretax net losses from foreign currency transactions of $0.4 million, $0.1 million and $0.1 million in fiscal 2010, 2009 and 2008, respectively. The gains or losses resulting from the translation of foreign financial statements have been included in other comprehensive income (loss).

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

Deferred tax assets reflect the tax effects of temporary differences between the carrying value of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management and based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. Each quarter the valuation allowance is re-evaluated.

Stock-Based Compensation - The Company measures compensation costs relating to share-based payment transactions based upon the grant-date fair value of the award. Those costs are recognized as expense over the requisite service period, which is generally the vesting period. The benefits of tax deductions in excess of recognized compensation cost are reported as cash flow from financing activities rather than as cash flow from operating activities.

Stock-based compensation expense for the fiscal years ended September 30, 2010, 2009 and 2008 reduced the Company's results of operations as follows:

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands, except per share amounts)		
Effect on income before income taxes	$ (987)	$ (711)	$ (473)
Effect on net income	$ (558)	$ (547)	$ (380)
Effect on basic income per share	$ (0.06)	$ (0.06)	$ (0.04)
Effect on diluted income per share	$ (0.06)	$ (0.06)	$ (0.04)

The Company awards restricted shares under the existing share-based compensation plans. Our restricted share-awards vest in equal annual installments over a two or four-year period. The total value of these awards is expensed on a ratable basis over the service period of the employees receiving the grants. The "service period" is the time during which the employees receiving grants must remain employees for the shares granted to fully vest.

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 2020. Options vest over 1 to 5 years. The Company estimates the fair value of stock option awards on the date of grant using the Black-Scholes option pricing model using the following assumptions:

	Years Ended September 30,		
	2010	2009	2008
Risk free interest rate	2.1%	1.9%	3.3%
Expected life	6 years	6 years	6 years
Dividend rate	0%	0%	0%
Volatility	69%	66%	62%
Forfeiture rate	4%	6%	9%

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

Fair Value of Financial Instruments – Cash, Cash Equivalents and Restricted Cash - The carrying amount of these assets on the Company's Consolidated Balance Sheets approximates their fair value because of the short maturities of these instruments.

Receivables, Payables and Accruals—The recorded amounts of financial instruments, including Accounts Receivable, Accounts Payable, and Accrued Liabilities, approximate their fair value because of the short maturities of these instruments.

Long-term Debt— The carrying values of the Company's long-term debt (see Note 5) approximate fair value because their variable interest rates approximate the prevailing interest rates for similar debt instruments.

Pensions—The Company has retirement plans covering substantially all employees. The principal plans are defined contribution plans, except for the plans of the Company's operations in the Netherlands and France and the plan for hourly union employees in Pennsylvania. The Company's employees in the Netherlands participate in a multi-employer plan. Payment to defined contribution plans and the multi-employer plan are recognized as an expense in the Consolidated Statement of Operations as they fall due.

Impact of Recently Issued Accounting Pronouncements

In October 2009, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2009-13, Revenue Recognition–Multiple Deliverable Revenue Arrangements. This guidance updates the existing multiple-element revenue arrangements guidance currently included in FASB ASC 605-25, Revenue Recognition–Multiple–Element Arrangements. The revised guidance provides for two significant changes to the existing multiple element revenue arrangements guidance. The first change relates to the determination of when the individual deliverables included in a multiple-element arrangement may be treated as separate units of accounting. The second change modifies the manner in which the transaction consideration is allocated across the separately identified deliverables. This guidance also significantly expands the disclosures required for multiple-element revenue arrangements. The revised multiple-element revenue arrangements guidance will be effective the fiscal year ending September 30, 2011, however, early adoption is permitted, provided that the revised guidance is retroactively applied to the beginning of the year of adoption. The Company is not planning to adopt this guidance early and the Company has not yet determined the impact, if any, the adoption of this guidance will have on its consolidated financial statements.

2. Stock-Based Compensation

Stock-Based Plans –The 2007 Employee Stock Option Plan (the "2007 Plan), under which 500,000 shares could be granted, was adopted by the Board of Directors in April 2007, and approved by the shareholders in May 2007. The 1998 Employee Stock Option Plan (the "1998 Plan"), under which 50,000 shares could be granted, was adopted by the Board of Directors in January 1998, and approved by shareholders in March 1998. The number of shares available for options under the 1998 Plan has since been increased to 500,000 shares through authorization by the Board of Directors and approval of shareholders. The 1998 Plan expired in January 2008. The Non-Employee Directors Stock Option Plan was approved by the shareholders in 1996 for issuance of up to 100,000 shares of Common Stock to directors. In July 2005, the Board of Directors authorized, and shareholders approved, an increase in the number of shares available for options under the Non-Employee Directors Stock Option Plan to 200,000 shares. In the second quarter of fiscal 2009, the Company's shareholders approved an amendment to our 2007 Employee Stock Incentive Plan and our Non-Employee Directors Stock Option Plan to authorize an additional 900,000 and 150,000 shares, respectively.

Stock options issued under the terms of the plans have, or will have, an exercise price equal to or greater than the fair market value of the Common Stock at the date of the option grant and expire no later than 10 years from the date of grant, with the most recent grant expiring in 2020. Options issued by the Company vest over one to five years. The Company may also grant restricted stock awards under the 2007 Plan.

As of September 30, 2010 and 2009, the unamortized expense related to restricted shares was $0.6 million and $0.4 million and it is expected to be recognized over two and three years, respectively.

Restricted stock transactions and outstanding are summarized as follows:

	Years Ended September 30,			
	2010		2009	
	Awards	Weighted Average Grant Date Fair Value	Awards	Weighted Average Grant Date Fair Value
Beginning Outstanding	122,875	$ 5.85	30,500	$ 14.79
Awarded	40,751	8.00	100,000	3.80
Released	(33,625)	6.46	(7,625)	14.79
Forfeited	(1,250)	8.20	-	-
Ending Outstanding	128,751	$ 6.34	122,875	$ 5.85

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

Name of Plan	Shares Authorized	Shares Available	Options Outstanding	Plan Expiration
2007 Employee Stock Incentive Plan	1,400,000	821,737	388,437	Apr. 2017
1998 Employee Stock Option Plan	500,000	-	169,493	Jan. 2008
Non-Employee Directors Stock Option Plan	350,000	151,600	78,353	Jul. 2015
		973,337	636,283	

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

	Years Ended September 30,					
	2010		2009		2008	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of period	691,403	$ 7.03	487,053	$ 8.39	450,303	$ 6.44
Granted	165,499	8.05	219,000	3.98	120,000	13.65
Exercised	(214,094)	6.19	(1,500)	2.00	(78,125)	5.37
Forfeited/cancelled	(6,525)	5.70	(13,150)	7.34	(5,125)	6.38
Outstanding at end of period	636,283	7.59	691,403	$ 7.03	487,053	$ 8.39
Exercisable at end of period	259,595	$ 7.97	317,877	$ 7.30	253,837	$ 6.54
Weighted average grant-date fair value of options granted during the period	$ 4.98		$ 2.33		$ 8.01	

The following tables summarize information for stock options outstanding and exercisable as of September 30, 2010:

		Options Outstanding			
Range of Exercise Prices		Number Outstanding	Remaining Contractual Life (in years)	Average Exercise Price	Aggregate Intrinsic Value (in thousands)
$	3.01 - 4.00	160,315	8.2	3.75	2,278
	4.01 - 5.00	1,250	0.5	4.36	17
	5.01 - 6.00	41,349	6.7	5.38	520
	6.01 - 7.00	207,250	6.4	6.51	2,373
	7.01 - 8.00	23,000	5.9	7.30	245
	8.01 - 9.00	15,000	5.9	8.41	143
	9.01 - 10.00	5,000	5.4	9.05	45
	10.01 - 11.00	75,119	9.5	10.65	549
	11.01 - 15.00	108,000	7.2	13.99	429
		636,283	7.3	$ 7.59	$ 6,599
	Vested and expected to vest as of September 30, 2010	618,802	7.3	$ 7.60	$ 6,411

		Options Exercisable		
Range of Exercise Prices		Number Exercisable	Weighted Average Exercise Price	Aggregate Intrinsic Value (in thousands)
$	3.01 - 4.00	29,491	3.71	420
	4.01 - 5.00	1,250	4.36	17
	5.01 - 6.00	36,545	5.42	458
	6.01 - 7.00	96,450	6.77	1,080
	7.01 - 8.00	18,000	7.30	192
	8.01 - 9.00	13,000	8.39	124
	9.01 - 10.00	5,000	9.05	45
	10.01 - 11.00	5,356	10.69	39
	11.01 - 15.00	54,503	13.97	218
		259,595	$ 7.97	$ 2,593

The aggregate intrinsic value in the tables above represents the total pretax intrinsic value, based on the Company's closing stock price of $17.96 per share as of September 30, 2010, which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of stock options exercised during the fiscal years ended September 30, 2010, 2009 and 2008 was $1.8 million, less than $0.1 million and $0.6 million, respectively.

3. Earnings Per Share

Basic earnings per share is computed by dividing net income (loss) available to common stockholders (net income less accrued preferred stock dividends) by the weighted average number of common shares outstanding for the period. Diluted earnings (loss) 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 (loss). In the case of a net loss, diluted earnings per share is calculated in the same manner as basic earnings per share. Options and restricted stock of approximately 229,000, 721,500 and 160,500 shares are excluded from the fiscal 2010, 2009 and 2008 earnings per share calculations as they are anti-dilutive.

	2010	2009	2008
	(dollars in thousands, except per share amounts)		
Basic Income (Loss) Per Share Computation			
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857
Weighted Average Shares Outstanding:			
Common stock	9,022	9,019	8,719
Basic income (loss) per share	$ 1.06	$ (0.18)	$ 0.33
Diluted Income (Loss) Per Share Computation			
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857
Weighted Average Shares Outstanding:			
Common stock	9,022	9,019	8,719
Common stock equivalents	215	-	127
Diluted shares	9,237	9,019	8,846
Diluted income (loss) per share	$ 1.04	$ (0.18)	$ 0.32

4. Other Long-Term Obligations

In October 2006, the Company financed a de-burring machine purchased in the fourth quarter of fiscal 2006. The Company financed $0.4 million at an interest rate of 7.43% with 60 equal monthly payments of $7,000, including principal and interest. The outstanding principal balance of this loan was $0.1 million and $0.2 million as of September 30, 2010 and 2009, respectively.

In October 2007, the Company acquired, through the acquisition of R2D, a CNC machine purchased in the 3rd quarter of fiscal 2007. The amount originally financed was $0.1 million at an interest rate of 5.1% with 60 equal monthly payments of $2,000, including principal and interest. The outstanding balance at the time of the acquisition was $0.1 million. The outstanding principal balance of this loan was less than $0.1 million and $0.1 million as of September 30, 2010 and 2009, respectively.

In October 2007, the Company acquired, through the acquisition of R2D, a CNC machine purchased in the 4th quarter of fiscal 2007. The amount originally financed was $0.1 million at an interest rate of 5.2% with 60 equal monthly payments of $2,000, including principal and interest. The outstanding balance at the time of the acquisition was $0.1 million. The outstanding principal balance of this loan was less than $0.1 million and $0.1 million as of September 30, 2010 and 2009, respectively.

Total maturities of long term debt are $0.1 million in 2011, less than $0.1 million in 2012 and zero, thereafter. Interest expense was $0.1 million, $0.1 million, and $0.2 million for fiscal 2010, 2009, and 2008, respectively.

5. Stockholders' Equity

Stock Repurchase Program – In December 2008, the Board of Directors approved a stock repurchase program authorizing the repurchase of up to $4 million of its common stock. Under the program, shares may be repurchased from time to time in open market transactions at prevailing market prices or in privately negotiated purchases. The timing and actual number of shares purchased will depend on a variety of factors, such as price, corporate and regulatory requirements, alternative investment opportunities, and other market and economic conditions. The program may be commenced, suspended or terminated at any time, or from time-to-time at management's discretion without prior notice. During fiscal 2009, the Company repurchased 144,000 shares for $0.4 million in cash at an average cost of $3.09 per share. The repurchased shares were retired immediately after the repurchases were complete. Retirement of the repurchased shares is recorded as a reduction of common stock and additional paid-in-capital.

Shareholder Rights Plan – On December 15, 2008, the Company and Computershare Trust Company, N.A., as Rights Agent (the "Rights Agent"), entered into an Amended and Restated Rights Agreement (the "Restated Rights Agreement") which amends and restates the terms governing the previously authorized shareholder rights (each a "Right") to purchase fractional shares of the Company's Series A Participating Preferred Stock ("Series A Preferred") currently attached to each of the Company's outstanding Common Shares, par value $0.01 per share ("Common Shares"). As amended, each Right entitles the registered holder to purchase from the Company one one-thousandth of a share of Series A Preferred at an exercise price of $51.60 (the "Exercise Price"), subject to adjustment. The Final Expiration Date (as defined in the Restated Rights Agreement) is December 14, 2018.

Other than extending the Final Expiration Date (as defined in the Restated Rights Agreement) of the Rights to December 14, 2018 and adjusting the Exercise Price, there were no material changes to the principal terms of the Rights. The Restated Rights Agreement also contains certain other changes in order to address current law and practice with respect to shareholder rights plans.

Public Offerings - In November 2007, the Company completed an underwritten public offering of 2,500,000 shares of its common stock at a price to the public of $14.41 per share. Net proceeds to the Company were approximately $33.6 million, net of approximately $0.3 million of offering expenses and $2.2 million of underwriting commissions. The Company intends to use the net proceeds from this offering for working capital and other general corporate purposes. Pending application of these proceeds, the Company will invest the net proceeds in short-term, interest bearing investment grade securities.

6. Commitments and Contingencies

Purchase Obligations – As of September 30, 2010, we had unrecorded purchase obligations in the amount of $40.1 million. These purchase obligations consist of outstanding purchase orders for goods and services. While the amount represents purchase agreements, the actual amounts to be paid may be less in the event that any agreements are renegotiated, cancelled or terminated.

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

License agreement – The Company entered into amendments with one of our technology partners to both the PSG license and the PECVD license to expand the licenses to include one future model of the PSG dry etch systems and three future models of the PECVD system. These amendments to the licenses require the Company to pay additional license fees upon successful achievement of the agreed upon specifications of each of the four new models. The four payments range from three hundred million South Korean Won (KRW), approximately $230,000, to one billion KRW, approximately $780,000, for maximum total payments of approximately $1,420,000. Such payments will be recorded as additional intangibles, the cost of which will be amortized over the life of the license. Due to the extended amount of time to reach the agreed upon specifications it is uncertain whether these commitments will materialize.

Operating Leases – The Company leases buildings, vehicles and equipment under operating leases. Rental expense under such operating leases was $1.0 million in fiscal 2010 and $0.9 million in fiscal 2009 and 2008, respectively. As of September 30, 2010, future minimum rental commitments under non-cancelable operating leases with initial or remaining terms of one year or more totaled $3.2 million, of which $1.1 million, $0.6 million, $0.4 million, $0.3 million and $0.2 million is payable in fiscal 2011, 2012, 2013, 2014 and 2015, respectively, and $0.6 million, thereafter.

7. Major Customers and Foreign Sales

Three customers individually accounted for 28%, 16% and 20% of net revenue during fiscal 2010, 2009 and 2008, respectively. Yingli Green Energy (Yingli) accounted for 28%, 4% and 20% of our net revenue in fiscal 2010, 2009 and 2008, respectively.

Our net revenues for fiscal 2010, 2009 and 2008 were to customers in the following geographic regions:

	Years Ended September 30,		
	2010	2009	2008
United States	7%	18%	15%
Other	0%	0%	1%
Total North America	7%	18%	16%
Taiwan	17%	22%	14%
China	64%	39%	48%
Other	3%	7%	6%
Total Asia	84%	68%	68%
Germany	3%	5%	5%
Other	6%	9%	11%
Total Europe	9%	14%	16%
	100%	100%	100%

8. Business Segments and Geographic Regions

The Company is no longer required to present separate reportable segments as none of our operating segments meet the quantitative thresholds.

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

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Net revenue:			
The Netherlands	$ 93,389	$ 40,854	$ 58,642
United States	15,020	9,877	18,478
France	11,610	2,242	3,176
	$ 120,019	$ 52,973	$ 80,296
Operating income (loss):			
The Netherlands	$ 12,165	$ 2,255	$ 6,342
United States	(1,955)	(4,131)	(2,304)
France	5,699	(62)	(236)
	$ 15,909	$ (1,938)	$ 3,802

	As of September 30,	
	2010	2009
Net Long-lived Assets (excluding intangibles and goodwill)		
The Netherlands	$ 8,273	$ 6,902
United States	3,532	2,182
France	457	533
	$ 12,262	$ 9,617

9. Income Taxes

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

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Current:			
Domestic Federal	$ 200	(330)	$ 1,600
Foreign	7,200	640	2,300
Domestic state	110	10	20
	7,510	320	3,920
Deferred:			
Domestic Federal	(1,540)	(710)	(2,100)
Foreign	180	(110)	(140)
Domestic state	-	80	10
	(1,360)	(740)	(2,230)
	$ 6,150	$ (420)	$ 1,690

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

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Tax provision (benefit) at the statutory federal rate	$ 5,340	$ (680)	$ 1,550
Effect of permanent book-tax differences	240	130	190
State tax provision	20	20	10
Valuation allowance for net deferred tax assets	90	80	(230)
Uncertain tax items	530		
Expiration of foreign net operating loss	-	-	70
Other items	(70)	30	100
	$ 6,150	$ (420)	$ 1,690

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 assets and deferred tax liability are as follows:

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Deferred tax assets - current:			
Capitalized inventory costs	$ 470	$ 310	470
Inventory write-downs	820	870	700
Accrued Warranty	370	520	410
Deferred profits	(180)	(10)	1,800
Accruals and reserves not currently deductible	650	600	1,120
	2,130	2,290	4,500
Valuation allowance	-	-	-
Deferred tax assets - current net of valuation allowance	2,130	2,290	4,500
Deferred tax assets (liabilities)- non-current:			
Stock option expense	430	310	110
Book vs. tax basis of acquired assets	(670)	(830)	(900)
State net operating losses	380	300	220
Book vs. tax depreciation and amortization	350	150	(150)
Foreign tax credits	2,540	1,490	-
Other deferred tax assets	20	20	-
Total deferred tax assets - net	3,050	1,440	(720)
Valuation allowance	(390)	(300)	(220)
Deferred tax assets net of valuation allowance	$ 2,660	$ 1,140	$ (940)

Changes in the deferred tax valuation allowance are as follows:

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Balance at the beginning of the year	$ 300	$ 220	$ 450
Additions (subtractions) to valuation allowance	90	80	(230)
Balance at the end of the year	$ 390	$ 300	$ 220

The Company has net operating losses in some states at September 30, 2010 which expire in varying amounts between 2011 and 2014. These operating losses have been fully reserved in those states where we determined that we will not be able to utilize those net operating losses. The Company has foreign tax credits which expire in varying amounts between 2018 and 2020.

Proper accounting for income taxes requires that a valuation allowance is recognized if, based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. Each quarter the valuation allowance is re-evaluated. Tax payments of $1.5 million were made and tax refunds of $0.7 million were received during fiscal 2010.

We adopted, as of the beginning of fiscal 2008, the standards required for accounting for uncertainty in income taxes. Prior to the adoption of these standards, our policy was to establish reserves that reflected the probable outcome of known tax contingencies. The effects of final resolution, if any, were recognized as changes to the effective income tax rate in the period of resolution. The standards adopted at the beginning of fiscal 2008 require application of a "more likely than not" threshold to the recognition and derecognition of uncertain tax positions. We currently recognize the amount of tax benefit that has a greater than 50 percent likelihood of being ultimately realized upon settlement. The standards further require that a change in judgment related to the expected ultimate resolution of uncertain tax positions be recognized in earnings in the quarter of such change.

As a result of adoption, we recorded a $0.3 million increase to tax liabilities, and a $0.3 million decrease to retained earnings at the beginning of fiscal 2008.

The following table sets forth changes in our total gross unrecognized tax benefit liabilities for fiscal 2010. Approximately $1.1 million of this total represents the amount that, if recognized would favorably affect our effective income tax rate in future periods.

	(dollars in thousands)
Balance as of September 30, 2009	$ 480
Tax positions related to current year:	
Additions	490
Reductions	-
Tax positions related to prior years:	
Additions	70
Reductions	-
Settlements	-
Lapses in statues of limitations	(30)
Balance as of September 30, 2010	$ 1,010

We have classified all of our liabilities for uncertain tax positions as income taxes payable long-term.

We report accrued interest and penalties related to unrecognized tax benefits in income tax expense. For fiscal 2010, we recognized a net expense for interest and penalties of $0.1 million resulting in an accrual of $0.2 million for potential accrued interest and penalties as of September 30, 2010.

We do not expect that the amount of our tax reserves will materially change in the next 12 months other than the continued accrual of interest and penalties.

We have not signed any agreements with the Internal Revenue Service, any state or foreign jurisdiction to extend the statute of limitations for any fiscal year. As such, the number of open years is the number of years dictated by statute in each of the respective taxing jurisdictions, but generally is from 3 to 5 years.

During the current fiscal year, we recorded a benefit of less than $0.1 million, resulting from the reversal of liabilities in taxing jurisdictions where the statute of limitations had expired.

Various examinations by United States, state or foreign tax authorities could be conducted for any open tax year.

10. Impairment and Restructuring Charge

Long-lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The methods used to estimate fair value include the market approach (Level 2) and discounted cash flows (Level 3). The Company gives the greatest weight to the discounted cash flow method. The material estimates and assumptions used in the discounted cash flows method of determining fair valued include: the appropriate discount rate, given the risk-free rate of return and various risk premiums; projected revenues; projected material costs as a percentage of revenue; and the rate of increase in payroll and other expense.

In April 2007, the Company entered into a license agreement with one of the Company's technology partners to market, sell, install, service and manufacture machinery and equipment for the manufacturing of photovoltaic cells that employs PECVD Technology (Licensed Product) developed by the technology partner. Under the terms of this agreement the Company paid $1.0 million to the technology partner. The license agreement expires in January 2019. These payments are being amortized over the life of the agreement. Recently, several new competitors have entered the market and management has determined that the market opportunity for the licensed product has decreased. This recent development and the extended amount of time to develop the licensed product caused management to review the licensed product for impairment and recoverability.

In Fiscal 2010, it was determined that the carrying value of the license subject to amortization was not fully recoverable; therefore, an impairment charge of $0.6 million was recorded for the excess of carrying value over the fair value of the license. The fair value of the license was determined through estimates of the present value of future cash flows based upon the anticipated future use of the license.

The Bruce operations were restructured in the second quarter of fiscal 2009 to focus primarily on a parts supply business versus furnace systems sales. The restructuring resulted in a charge of $620,000 in the second quarter of fiscal 2009. We conducted an assessment of the ability to recover the carrying amount of long-lived assets of the Bruce operations. It was determined that the carrying value of the net assets was not fully recoverable; therefore, an impairment charge of $373,000 was recorded in the second quarter of fiscal 2009 for the excess of carrying value over the fair value of the customer list and non-compete agreement. The carrying values of goodwill ($89,000) and the Bruce trademark ($592,000) were also recorded as an impairment charge in the second quarter of fiscal 2009.

In the third quarter of fiscal 2008, Bruce Technologies operations were reorganized to better position the Company for profitability in light of lower plant utilization resulting from a slowdown in the semiconductor industry. As a result of this reorganization, the Company notified certain personnel of their termination date and severance and recorded a restructuring charge of $0.4 million. All amounts had been paid as of September 30, 2008. These charges are presented as a separate line item on the Consolidated Statements of Operations.

11. Selected Quarterly Data (Unaudited)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Fiscal Year 2010:	(in thousands, except per share amounts)			
Revenue	$ 15,457	$ 16,077	$ 43,072	$ 45,413
Gross margin	$ 4,600	$ 4,708	$ 15,752	$ 17,652
Net income	$ 80	$ 206	$ 3,876	$ 5,401
Net income per share:				
Basic	$ 0.01	$ 0.02	$ 0.43	$ 0.60
Shares used in calculation	8,972	9,018	9,021	9,077
Diluted	$ 0.01	$ 0.02	$ 0.42	$ 0.58
Shares used in calculation	9,059	9,239	9,231	9,376
Fiscal Year 2009:	(in thousands, except per share amounts)			
Revenue	$ 17,872	$ 10,904	$ 12,528	$ 11,669
Gross margin	$ 6,086	$ 2,357	$ 3,582	$ 2,994
Net income (loss)	$ 860	$ (2,012)	$ (235)	$ (202)
Net income (loss) per share:				
Basic	$ 0.09	$ (0.22)	$ (0.03)	$ (0.02)
Shares used in calculation	9,098	9,057	8,960	8,960
Diluted	$ 0.09	$ (0.22)	$ (0.03)	$ (0.02)
Shares used in calculation	9,109	9,057	8,960	8,960

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure 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 defined in Exchange Act Rules 13a-15(e) and 15(d)-15(e). Based upon that evaluation, our CEO and CFO have concluded that our disclosure controls and procedures in place were effective as of September 30, 2010.

Management's Report on Internal Control Over Financial Reporting

To the Shareholders of Amtech Systems, Inc.,

The management of Amtech Systems, Inc. is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, our controls and procedures may not prevent or detect misstatements. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the controls system are met. Because of the inherent limitations in all controls systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected.

Management assessed the effectiveness of our internal control over financial reporting based on the criteria in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on its evaluation under the criteria in Internal Control — Integrated Framework, management concluded that our internal control over financial reporting was effective as of September 30, 2010.

There were no changes in our internal controls over financial reporting that occurred during the year ended September 30, 2010, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

The Company's independent registered public accounting firm, Mayer Hoffman McCann P.C., has issued an audit report on the Company's internal control over financial reporting. The report on the audit of internal control over financial reporting is set forth below.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders of

AMTECH SYSTEMS, INC.

We have audited the internal control over financial reporting of Amtech Systems, Inc. and subsidiaries (the "Company") based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Amtech Systems, Inc.'s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the effectiveness of the Company's internal control over financial reporting 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 effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2010, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows of Amtech Systems, Inc., and our report dated November 15, 2010 expressed an unqualified opinion.

/s/ MAYER HOFFMAN MCCANN P.C.

Phoenix, Arizona
November 15, 2010

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 2011 Annual Meeting of Stockholders (the "Proxy Statement").

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND GOVERNANCE

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, AND DIRECTOR INDEPENDENCE

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 AND FINANCIAL STATEMENT SCHEDULES

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

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

(3) Exhibits: The response to this section of Item 15 is included in the Exhibit Index of this Annual Report on Form 10-K 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.

November 15, 2010	By:	/s/ Bradley C. Anderson Bradley C. Anderson, Vice President – Finance and Chief Financial Officer

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

SIGNATURE	TITLE	DATE
* Jong S. Whang	Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)	November 15, 2010
/s/ Bradley C. Anderson Bradley C. Anderson	Vice President – Finance and Chief Financial Officer (Principal Financial Officer)	November 15, 2010
* Robert T. Hass	Chief Accounting Officer (Principal Accounting Officer)	November 15, 2010
* Michael Garnreiter	Director	November 15, 2010
* Alfred W. Giese	Director	November 15, 2010
* Egbert J.G. Goudena	Director	November 15, 2010
* Robert F. King	Director	November 15, 2010
* Dr. Jeong Mo Hwang	Director	November 15, 2010

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

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

EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION	METHOD OF FILING
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	K
3.8	Amended and Restated Bylaws	F
4.1	Amended and Restated Rights Agreement as of December 15, 2008, by between Amtech systems, Inc. and Computershare Trust Company, N.A., including the form of Certificate of Designation, the form of Rights Certificate and the Summary of Rights attached thereto as Exhibits A, B and C, respectively.	G
4.2	Form of Subscription Agreement for the Series A Convertible Preferred Stock	K
+10.1	Amended and Restated 1995 Stock Option Plan	H
+10.2	Non-Employee Directors Stock Option Plan, as amended through March 11, 2010.	I
+10.3	Employment Agreement with Robert T. Hass, dated May 19, 1992	J
10.4	Warrant to Purchase Common Stock, dated April 22, 2005	L
10.5	Loan and Security Agreement (Domestic), dated April 7, 2006, between Silicon Valley Bank and the Company.	M
10.6	Loan and Security Agreement (EXIM), dated April 7, 2006, between Silicon Valley Bank and the Company.	M
10.7	Export-Import Bank of the United States Working Capital Guarantee Program Borrower Agreement, dated April 7, 2006.	M
10.8	Third Amendment to Lease, dated as of August 11, 2006, between Wakefield Investments, Inc. and Bruce Technologies, Inc.	N
+10.9	2007 Employee Stock Incentive Plan, as amended through March 11, 2010.	O
10.10	Sale Agreement, dated March 15, 2007, for purchase of manufacturing facility Located in Vassen, The Netherlands by Tempress Holdings B.V. from Mr. F. H. Van Berlo.	P
+10.11	Amended and Restated Employment Agreement between Amtech and Jong S. Whang	P
10.12	Stock Purchase and Sale Agreement, by and among Tempress Holdings, B.V., R2D Ingenierie SAS and the Shareholders of R2D Ingenierie SAS, dated as of October 8, 2007.	O
+10.13	Change of Control Severance Agreement, dated as of March 10, 2008 between Amtech and Bradley Anderson.	R
10.14	Amended and Restated Change of Control and Severance Agreement between Amtech and Robert T. Hass	I
21.1	Subsidiaries of the Registrant	*
23.1	Consent of Independent Registered Public Accounting Firm - Mayer Hoffman McCann P.C.	*
24.1	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	*

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*	Filed herewith.
+	Indicates management contract or compensatory plan or arrangement.
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 Current Report on Form 8-K filed with the Securities and Exchange Commission on January 8, 2008.
G	Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on December 15, 2008.
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 Current Report on Form 8-K, filed with the Securities and Exchange Commission on March 17, 2010.
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 Current Report on Form 8-K filed with the Securities and Exchange Commission on April 28, 2005.
L	Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 2005.
M	Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on April 12, 2006.
N	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2006.
O	Incorporated by reference to Amtech's Proxy Statement for its 2007 Annual Shareholders' Meeting, filed with the Securities and Exchange Commission on April 24, 2007.
P	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2007.
Q	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 11, 2007.
R	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 11, 2008.