AMTECH SYSTEMS INC
Form 10-K
December 11, 2013

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, 2013
	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). [X] 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 [ ] Non-accelerated filer [X] (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, 2013, the aggregate market value of the voting and non-voting stock held by non-affiliates of the registrant was approximately $34,129,000, based upon the closing sales price reported by the NASDAQ Global Market on that date.

As of December 2, 2013, the registrant had outstanding 9,565,500 shares of Common Stock, $0.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Definitive Proxy Statement related to the registrant's 2014 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, 2013, are incorporated by reference into Items 10-14 of Part III of this Form 10-K.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES

Table of Contents

Part I		
Item 1.	Business	3
Item 1A.	Risk Factors	12
Item 1B.	Unresolved Staff Comments	22
Item 2.	Properties	22
Item 3.	Legal Proceedings	23
Item 4.	Mine Safety Disclosures	23
Part II		
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	24
Item 6.	Selected Financial Data	25
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	26
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk	38
Item 8.	Financial Statements and Supplementary Data	39
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	64
Item 9A.	Controls and Procedures	65
Item 9B.	Other Information	66
Part III		
Item 10.	Directors, Executive Officers and Corporate Governance	66
Item 11.	Executive Compensation	66
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	66
Item 13.	Certain Relationships and Related Transactions, and Director Independence	66
Item 14.	Principal Accountant Fees and Services	66
Part IV		
Item 15.	Exhibits and Financial Statement Schedules	66
Signatures		67

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," "plans," "anticipates," "intends," "believes," "estimates," "p "potential," "continue," or the negative of these terms or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in the section entitled "ITEM 1A. RISK FACTORS." These and many other factors could affect Amtech's future operating results and financial condition, and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Amtech or on its behalf.

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

PART I

ITEM 1. BUSINESS

OUR COMPANY

We are a leading global provider of thermal processing systems, including related automation, parts and services for the solar / photovoltaic, semiconductor, silicon wafer and microelectromechanical systems (MEMS) industries and also offer PECVD (plasma-enhanced chemical vapor deposition) equipment to the solar industry. We also produce consumables and machinery for lapping (fine abrading) and polishing of materials, such as sapphire substrates, optical components, silicon wafers, numerous types of crystal materials, ceramics and metal components. Current growth markets include LED lighting and mobile devices. Each of these market segments utilizes sapphire substrates manufactured using lapping and polishing technologies offered under our PR Hoffman brand name.

Our major emphasis in the solar industry is the development of thermal processes, deposition and ion implant equipment for solar cell manufacturing, which we believe, collectively, are key to driving higher cell efficiencies. The markets we serve are experiencing rapid technological advances and are, historically, cyclical. Therefore, future profitability and growth depend on our ability to develop or acquire and market profitable new technology products, and on our ability to adapt to cyclical trends.

We believe our product portfolio, developed through a track record of technological innovation as well as the successful integration of key acquisitions, reduces the cost of solar cell manufacturing by increasing solar cell efficiency, increasing throughput and increasing yields. We have been providing manufacturing solutions to the semiconductor industry for over 30 years and have leveraged our semiconductor technology and industry presence to capitalize on growth opportunities in the solar industry. Our customers use our equipment to manufacture solar cells, semiconductors, silicon wafers and MEMS, which are used in end markets such as solar power, telecommunications, consumer electronics, computers, automotive and mobile hand-held devices. Through our acquisition in 2011 of a controlling interest in Kingstone Technology Hong Kong Limited ("Kingstone"), we have expanded our development efforts in the area of solar ion implant. To complement our research and development efforts, we also sell our equipment to, and coordinate certain development efforts with, research institutes, universities and customers.

For fiscal 2013, we recognized net revenue of $35 million, which included $17 million of solar revenue or approximately 50% of our total revenue. These results compare to $82 million of net revenue for fiscal 2012, which

included $44 million of solar revenue or approximately 54% of our total revenue. Our order backlog as of September 30, 2013 and 2012 was $27 million and $19 million, respectively, a 43% increase. Our backlog as of September 30, 2013 included approximately $17 million of orders and deferred revenue from our solar industry customers compared to $14 million from our solar industry customers as of September 30, 2012. 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 $21 million during fiscal 2013, compared to $13 million and $199 million in fiscal 2012 and 2011, respectively. The solar book to bill ratio for fiscal years 2013 and 2012 was 2.1:1 and 0.5:1, respectively. Our order pipeline remains slow with the exception of a large recent order for n-type cell technology and PECVD equipment.

We operate in two business segments: (i) solar and semiconductor equipment and (ii) polishing supplies. For information regarding net revenue, operating income and identifiable assets attributable to each of our two business segments, see Note 8 of the Notes to Consolidated Financial Statements included herein and "ITEM 7, MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS" in this Annual Report. For information on the products of each segment, see "Solar and Semiconductor Equipment Products" and "Polishing Supplies Products" within this "ITEM 1. BUSINESS" section. For information regarding risks to our business, see “ITEM 1A. RISK FACTORS.”

COMPETITIVE STRENGTHS

We believe that our competitive strengths include:

Market Leader in Solar Thermal Processing Systems. We are a leading supplier of thermal processing systems to the global solar cell market and count many of the world's leading solar cell manufacturers as customers. Since we entered the solar market in 2006, we have shipped more than 500 diffusion furnaces globally. Our diffusion furnaces, along with our PECVD equipment, enable our customers to produce high quality solar cells with higher efficiencies and lower total cost of ownership.

Technology Enabling High Efficiency, Low Cost Solar Cell Manufacturing. Our technology platform provides key components to the solar cell manufacturing industry that enable lower cost of ownership and improved customer economics by increasing solar cell efficiency, increasing throughput, increasing yields, reducing labor costs, enhancing quality and cutting operating and maintenance expenses. We are continually developing next-generation process technology for solar cell manufacturing to further drive increased efficiency and lower cost which is expected to ultimately lead to grid parity.

Key Equipment Supplier to the World's Leading Solar Cell Manufacturers. We have developed a large and growing global customer base and currently provide systems and equipment to many of the world's leading solar cell manufacturers. Asia represents one of the largest and fastest growing solar cell manufacturing regions in the world and for fiscal year 2013, Asian customers represented 64% of our net revenues. We believe our alignment with many of the leading Asian global solar cell manufacturers represents a significant endorsement of our technology value proposition, which in turn, we believe, will help us pursue our strategy of expanding our product suite to capture a greater percentage of capital spent in building future solar cell manufacturing capacity.

Track Record of Successful Acquisitions, Integration and New Product Development. Over the course of our history, we have built a leading technology platform based on the successful integration of six strategic acquisitions, several value-added collaboration and partnership agreements as well as an aggressive internal product innovation program. We believe that our track record of success illustrates our ability to both maintain our technology leadership and expand our customer base going forward. Select acquisitions include:

- Tempress Systems, acquired in 1994 and based in Vaassen, The Netherlands, and Bruce Technologies, acquired in July 2004 and based in North Billerica, Massachusetts. Our market-leading horizontal diffusion furnace systems are sold under these well-known and respected brand names to customers for use in solar cell and semiconductor

manufacturing. In addition, our customers have come to rely upon the leading Tempress and Bruce solutions for chemical vapor deposition and automation equipment.

R2D Automation, acquired in October 2007 and based in Clapiers, France - R2D develops and manufactures solar and semiconductor automation solutions. We believe R2D has enhanced our addressable market by increasing our product offerings under the Tempress brand to the global solar cell manufacturing industry, while also expanding sales into the semiconductor market.

Kingstone, a majority interest in Hong Kong-based Kingstone Technology Limited, acquired in 2011, which owns 100% of Kingstone Semiconductor Company Ltd, a Shanghai-based technology company specializing in ion implant solutions for the solar and semiconductor industries. The combination of our Tempress annealing expertise in horizontal diffusion furnaces and Kingstone's expertise in ion implant technology creates a more complete and complementary solution for our solar customers. We believe that the acquisition of Kingstone is a critical addition in support of our strategy to provide our customers with next-generation process technologies that enable the development of higher-efficiency, lower cost solar cells.

Strength of Management. We are led by a highly experienced management team. Our Executive Chairman, Jong S. Whang, has over 40 years of industry experience, including 32 years with Amtech and our Chief Executive Officer and President, Fokko Pentinga, has over 30 years of industry experience. Our general managers have an average of nearly 20 years of solar and semiconductor industry experience. The experience of our leadership team is derived from years of industry experience while at leading companies such as Samsung, Westinghouse, Texas Instruments, LG Semicon Company, and ASM International. Our collective team includes 18 Ph.D.'s.

Financial Strength and Stability. We have a strong balance sheet, with significant liquidity and no debt. Our conservative approach to capital structure and liquidity has contributed to our ability to successfully serve the cyclical semiconductor and solar industries for over 30 years. As a result, our customers are confident that they can depend on us as a long-term supplier and strategic partner.

GROWTH STRATEGY

Capitalize on Growth Opportunities in the Solar Industry by Leveraging Our Leading Diffusion Furnace Market Share, Top-Tier Customer Relationships, and Track Record of Technological Innovation. We believe that long-term growth in the solar industry will be driven by several macro-economic factors, such as volatile energy prices, limited non-renewable energy resources, government incentives for solar generated electricity, increasing environmental awareness, energy security concerns and the expected decrease in the cost of solar energy. As the solar market continues to develop, advances in process technology will be vital to remaining competitive. We intend to continue leveraging our leading market position, relationships with leading global solar cell customers and demonstrated track record of technical innovation to maximize sales of our current and next-generation technology solutions.

Develop Multi-Product Solutions to Expand Our Addressable Market. We are focused on acquiring, developing and licensing new products across our business in response to customer needs in the solar market. As we add to our product portfolio, we plan to continue expanding our offerings within the solar cell production process, thus capturing a greater percentage of capital spent on building global solar cell manufacturing capacity. Our successful development of PECVD equipment is a recent example of meeting our customers' needs and expanding the size of our addressable market.

Pursue Strategic Acquisitions That Complement Our Strong Platform. Over the course of our history, we have developed an acquisition strategy consistent with our focus of maintaining market leadership and a technology roadmap leading to higher efficiency and lower cost solar cells. Based on our 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, semiconductor and LED industries and expand our addressable market. In evaluating these opportunities, our objectives include: enhancing our earnings and cash flows, adding complementary product offerings, actively expanding our geographic footprint, improving our production efficiency and enhancing our customer base.

Contribute to the Solar Industry's Mission of Reaching Grid Parity. We believe next-generation process technology for solar cell manufacturing is the driver to increasing efficiency and lowering manufacturing costs and is key to enabling grid parity, where the cost of solar generated electricity is on parity with traditional, non-renewable sources of energy such as coal and natural gas. Our next-generation solar cell process technology has a demonstrated track record of increasing our customers' solar cell conversion efficiency. We will continue to develop next-generation solar cell manufacturing process technology that will enable our customers to displace non-renewable energy.

SOLAR AND SEMICONDUCTOR INDUSTRIES

Our systems and equipment are sold into two primary end-markets:

Solar. We provide process equipment and related cell manufacturing equipment to many of the world's leading solar cell manufacturers.

Within process equipment, our primary focus is on our existing solar diffusion furnace and the development of next-generation diffusion furnaces, including our proprietary N-type, ion implant and PECVD systems. Our N-type technology has been developed through a three-party research collaboration agreement with the Energy Research Centre of the Netherlands, or ECN, a leading solar research center in Europe and Yingli Green Energy Holding Company Limited, or Yingli, one of the world's leading vertically integrated PV product manufacturers. Additionally, our acquisition of Kingstone provides us with a technological foundation for execution of our product roadmap to compete in the future ion implant market. In 2012, we launched our PECVD system.

We also offer furnace automation and wafer handling systems used within the diffusion processing step of solar cell manufacturing. Our automation equipment includes mass wafer transfer systems, sorters, long-boat transfer systems, load station elevators, buffers and conveyers, which we sell both in connection with our diffusion furnaces and on a standalone basis.

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.

Although the solar market has experienced tremendous growth over the past five years, it is characterized by short-term periods of rapid capacity expansion followed by periods of rapid contraction in our customers' capital spending. When actual and expected end-user demand outstrips available capacity, this triggers the beginning of the next period of expansion.

Semiconductors. We provide diffusion equipment as well as handling, storage and automation equipment and related services to leading semiconductor manufacturers. Our products include horizontal and vertical diffusion furnaces used to produce semiconductors, silicon wafers and MEMS, as well as lapping equipment, polishing templates and wafer insert carriers, mass wafer transfer systems, loaders and sorters.

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 utilization of capacity for most semiconductors, including microprocessors, memory, power management chips and other logic devices. When capacity utilization decreases due to the addition of excess capacity, semiconductor manufacturers typically slow their purchasing of capital equipment. Conversely, when capacity utilization increases, so does capital spending.

Most semiconductor chips are built on a silicon 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 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.

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 solar and semiconductor manufacturing processes, including diffusion, phosphorus tetrachloride doping, or POCl3, boron tribromide, or BBR_3, low-pressure chemical vapor deposition, or LPCVD, oxidation, and annealing.

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 thermal 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 our customers' particular processes. The horizontal furnaces utilize a combination of existing industry and proprietary technologies and are sold primarily to solar customers and semiconductor 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 - Solar. Our automation technology products are used in several of the diffusion steps and in the anneal processing step of solar cell manufacturing. Our R2D Automation equipment includes mass wafer transfer systems, sorters, long-boat transfer systems, load station elevators, buffers and conveyers. We use a vacuum technology in our Comet Standalone and our Comet Full Automation solar wafer transfer systems designed to ensure high throughput, reduced breakage and thereby increased yield.

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. PECVD layers are also used for passivation of the front and/or back side of the solar cell. This solar product adds another solar cell processing step to Amtech's offerings. We are exploring next-generation high-efficiency technology and dedicating our efforts to that process development.

Solar Ion Implant. Kingstone is developing an ion implant system specifically designed for the solar industry, which will contribute to higher efficiencies at a lower cost of ownership.

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, compacting or tracking. The Comet Sorter is cassette to cassette with OCR front and back scribe functions, notch alignment and SECSII Gem communication. Comet ID Readers check tag carriers then read 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. We are 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 division provides solutions to the lapping and polishing marketplace. Lapping is the process of abrading components with a high degree of precision for flatness, parallelism and surface finish. Common applications for this technology are silicon wafers for semiconductor products, sapphire substrates for LED lighting and mobile devices, silicon carbide for LED lighting, various glass and silica components for 3D image transmission, quartz and ceramic components for telecommunications devices, medical device components and computer hard 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 and sapphire 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 450mm 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 wafers up to 450mm in diameter.
Semiconductor Polishing Templates. Our polishing templates are used to securely hold sapphire or other wafer materials 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 as well as mobile communication devices.
Double-Sided Planetary Lapping and Polishing Machines. Double-sided lapping and polishing machines are designed to process thin and fragile materials, such as semiconductor, sapphire and other wafer-like materials, 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 with a lower cost of ownership than systems offered by our competitors. We target the LED, mobile device, semiconductor, optics, quartz, ceramics, medical, computer disk and metal working markets.

MANUFACTURING, RAW MATERIALS AND SUPPLIES

Our solar and semiconductor equipment manufacturing activities consist primarily of engineering design to meet specific and evolving customer needs, and procurement and assembly of various commercial and proprietary components into finished thermal processing systems and related automation in Vaassen, The Netherlands, Clapiers, France, and North Billerica, Massachusetts.

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. These products are engineered and designed for specific applications and to meet the increasingly tight tolerances required by our customers. 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.

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' 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 maintain or exceed the pace of such change by improving our products and our process technologies and by developing new technologies and products that compete effectively on the basis of price and performance. To assure that these technologies and products address current and future customer requirements, we obtain as much customer cooperation and input as possible, thus increasing the efficiency and effectiveness of our research and development efforts.

With our acquisition of Kingstone in February 2011, we expanded our development efforts in a future high efficiency cell processing technology based on the ion implant process. We believe that the acquisition of Kingstone is a critical addition in support of our strategy to provide our customers with next-generation process technologies that enable the development of higher-efficiency, lower cost solar cells.

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, which are netted against our research and development costs. Our expenditures (net of grants earned) that have been accounted for as research and development were $6.6 million (19.0% of net revenue) for fiscal 2013, $13.7 million (16.8% of net revenue) for fiscal 2012, and $5.8 million (2.3% of net revenue) for fiscal 2011.

PATENTS

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

Product	Country (number of patents)	Expiration Date or Pending Approval
Systems and methods for charging solar cell layers	United States	Pending
Photovoltaic cell and method to produce photovoltaic cell	Netherlands	2030
Method for manufacturing a solar cell	Netherlands (3)	Pending
Systems for charging solar cell layers	United States	Pending
Systems and methods for charging solar cell layers	United States	2031
Solar cell coating	United States	Pending
Method for producing semiconductor device	Taiwan	2030
Chemical Vapor Deposition system	Europe	Pending
RFID use in carrier products	United States	Pending
IBAL Model S-300	United States (2)	2019
IBAL Model S-300	United States (2)	2021
Lapping Machine adjustable mechanism	United States	2027
Lapping Machine adjustable mechanism	Germany	Pending
Lapping Machine adjustable mechanism	Japan	Pending
System and method of ion implantation	United States (2)	2030
System and method of ion implantation	United States	Pending
System and method of ion implantation	China (3)	2030
System and method of ion implantation	China (10)	Pending
Ion beam transportation	China (2)	2029
Ion beam transportation	China (8)	Pending
Wafer handling	China (2)	Pending
System and method of high voltage power supply	China	Pending
System and method of making solar cells	China (9)	Pending
Vacuum chamber apparatus and method of moving objects within vacuum	China (9)	Pending
Method of making and transporting SiC layer	China (2)	Pending
Device for securing heating wire	Netherlands	2025
Device for securing heating wire	Germany	2026
Heating element wire spacer	United States	2026
Potential damage-free asher	United States	2018

To the best of our knowledge, there are currently 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 solar and 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.

10

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 are generally net 30 days. 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 customer deposit 30 days after order placement, a portion due 30 days after shipment and the balance 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 customer's country of domicile.

During fiscal 2013, 80% of our net revenue came from customers outside of North America. This group represented 87% of revenues in fiscal 2012. In fiscal 2013, net revenue was distributed among customers in different geographic regions as follows: North America 20% (all of which is in the United States), Asia 64% (including 39% to China and 14% to Taiwan) and Europe 16%. In fiscal 2013, one customer accounted for 20% of net revenue. In fiscal 2012, one customer accounted for 11% of net revenue. In fiscal 2011, two customers individually accounted for 15% and 14% of net revenue. Yingli accounted for 20%, 7% and 15% of our net revenues in fiscal 2013, 2012 and 2011, respectively. Yingli accounted for 18% and 14% of our accounts receivable balance as of September 30, 2013 and 2012, respectively. 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 capacity utilization, anticipated demand, the development of new technologies and global and regional economic conditions.

COMPETITION

We compete in several distinct equipment markets for solar cells, semiconductor devices, semiconductor wafers, MEMS and the market for lapping and polishing machines and supplies used in the LED, mobile devices and semiconductor markets. 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 these markets include the product'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.

The Solar Cell, Semiconductor Device, and MEMS Markets. Our thermal processing equipment and automation primarily compete with those produced by other original equipment manufacturers, some of which are well-established firms that are much larger and have substantially greater financial resources than we have. 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, 48th Institute, Sevenstar Electronics, CVD Equipment, Inc., Semco Engineering S.A., S.C New Energy and Expertech, Inc. We are experiencing increased competition from local Chinese equipment manufacturers, including 48th Institute, S.C New Energy and Sevenstar Electronics, which may receive varying levels of financial support from the Chinese government. Our primary competitive advantages over such local manufacturers include our automation and higher-efficiency solar cell production technologies which we develop in collaboration with customers and research institutes. Also, our furnaces and lapping and polishing machines face, to a limited extent, competition from equipment on the low-end of the price

spectrum.

General Industrial Lapping and Polishing Machines, Supplies and Semiconductor Wafer Markets. 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. We produce steel carriers, including insert carriers, on an advanced laser-cutting tool, which reduces our costs and lead times and increases our control over quality. Competitors of our lapping and polishing machines and supplies include Peter Wolters and Speedfam, divisions of Novellus, Lapmaster International, LLC, Hamai Co., Ltd., Onse, Inc. and Eminess Technologies,

Inc. 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, 2013, we employed 267 people. Of these employees, 12 were based at our corporate offices in Tempe, Arizona, 36 at our manufacturing plant in Carlisle, Pennsylvania, 22 at our manufacturing plant in Billerica, Massachusetts, 106 at our operations in The Netherlands, 58 at our facilities in China and 33 at our facilities in France. Of the 36 people employed at our Carlisle, Pennsylvania facility, 21 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.

CORPORATE INFORMATION

We were 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., or Tempress, a Texas corporation with all of its operations in Vaassen, The Netherlands, acquired in 1994 and subsequently reincorporated in The Netherlands; P.R. Hoffman Machine Products, Inc., or P.R. Hoffman, an Arizona corporation based in Carlisle, Pennsylvania, acquired in July 1997; Bruce Technologies, Inc., or Bruce Technologies, a Massachusetts corporation based in North Billerica, Massachusetts, acquired in July 2004; R2D Automation SAS, or R2D, a French corporation located near Montpellier, France, acquired in October 2007. We also own a 55% interest in Kingstone Technology Hong Kong Limited, or Kingstone, a Hong Kong-based company that owns 100% of Kingstone Semiconductor Company Ltd., located in Shanghai, China, acquired in February 2011.

AVAILABLE INFORMATION

Our internet website address is www.amtechsystems.com. Through our website, we make available, without charge, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, as soon as reasonably practicable after such materials are electronically filed, or furnished to, the Securities and Exchange Commission, or the SEC. The information found on our website, or information that may be accessed through links on our website, are not part of this or any other report we file with, or furnish to, the SEC. In addition, our SEC filings are available at the SEC's website at http://www.sec.gov.

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 solar cells, semiconductors, silicon wafers and MEMS;
• the profitability and capital resources of those manufacturers; and
• the shift of solar and semiconductor production to Asia, where there often is increased price competition.

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 product 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 their capacity utilization, which changes when new facilities are put into production, and with the level of demand for solar cells and semiconductors. Purchasing decisions are also impacted by changes in the economies of the countries which our customers serve, as well as the state of the worldwide solar and semiconductor industries. The timing, length and severity of the up-and-down cycles in the solar and semiconductor equipment industries 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 are adversely affected. 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; effectively manage the supply chain; and motivate and retain key employees. 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 the industry cycles. Our failure to timely and effectively respond to these cyclical changes could have a material adverse effect on our business.

The Company is exposed to risks as a result of ongoing changes specific to the solar industry.

A significant portion of the Company's business is to supply the solar market, which, in addition to the general industry changes described above, is characterized by ongoing changes specific to the solar industry, including:

- the varying energy policies of governments around the world and their influence on the rate of growth of the solar photovoltaic (PV) market, including the availability and amount of government incentives for solar power such as tax credits, feed-in tariffs, rebates, renewable portfolio standards that require electricity providers to sell a targeted amount of energy from renewable sources, and goals for solar installations on government facilities;
- the need to continually decrease the cost-per-watt of electricity produced by solar PV products to or below competing sources of energy by, among other things, reducing operating costs and increasing throughputs for solar PV manufacturing, and improving the conversion efficiency of solar PV;
- the impact on demand for solar PV products arising from the cost of electricity generated by solar PV compared to the cost of electricity from the existing grid or other energy sources;
- the growing number of solar PV manufacturers and increasing global production capacity for solar PV, primarily in China as a result of increased solar subsidies and lower manufacturing costs;
- trade tensions with China and potential retaliatory actions;
- the varying levels of operating and industry experience among solar PV manufacturers and the resulting differences in the nature and extent of customer support services requested from the Company;

- challenges associated with marketing and selling manufacturing equipment and services to a diverse and diffuse customer base;
- the cost of polysilicon and other materials;
- access to affordable financing and capital by customers and end-users; and
- an increasing number of local equipment and parts suppliers based in Asia with certain cost and other advantages over suppliers from outside Asia.

In addition, current projections for global solar PV production exceed anticipated near-term end-use demand, which is heavily dependent on installed cost-per-watt, government policies and incentives, and the availability of affordable

capital. An oversupply of solar PV may lead customers to delay or reduce investments in manufacturing capacity and new technology, and adversely impact the sales and/or profitability of our products. If the Company does not successfully manage the risks resulting from the ongoing changes occurring in the solar industry, its business, financial condition and results of operations could be materially and adversely affected.

The solar and semiconductor equipment industries are competitive and because we are relatively small in size and have fewer resources compared to our competitors, we may not be able to compete successfully with them.

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 in these markets. 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 often at a lower price than ours and use innovative technology to sell products into specialized markets. Furthermore, we face competition from Chinese equipment manufacturers, including 48th Institute and Sevenstar Electronics, which may receive greater support from Chinese customers and governmental agencies because they are locally based. 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.

Because we depend on revenue from international customers, our business may be adversely affected by changes in the economies and policies of the countries or regions in which we do business.

During fiscal 2012, 87% of our net revenue came from customers outside of North America. During fiscal 2013, 80% of our net revenue came from customers outside of North America as follows:

- Asia - 64% (including China - 39% and Taiwan - 14%)
- Europe – 16%.

Each region in the global solar and semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Our business and results of operations could be negatively affected by periodic local or international economic downturns, trade balance issues and political, social and military instability in countries such as China, India, South Korea, Taiwan and possibly elsewhere. 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, shipping and regulatory costs, proximity to customers, favorable tariffs and other government policies that favor local suppliers.

Our business may be adversely affected by significant exchange rate fluctuations and changes in foreign laws.

We incurred net foreign currency transaction losses of less than $0.1 million in each of the fiscal years ending September 30, 2013 and 2012. 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, especially as we continue to expand operations into other countries. Such risk includes possible losses due to currency exchange rate fluctuations, possible future prohibitions against repatriation of earnings, or proceeds from disposition of investments. Our wholly-owned subsidiary, Tempress Systems, has conducted its operations in The Netherlands since 1995. In October 2007 we completed our acquisition of R2D, a French company. In February 2011, we completed our acquisition of Kingstone. As a result of these acquisitions in Europe and Asia, the risk associated with foreign currency translation gains and losses has increased. Operations of these companies are subject to the taxation policies, employment and labor laws, transportation regulations, import and export regulations and tariffs, possible foreign exchange restrictions and international monetary

fluctuations. 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. We could be adversely affected by violations of applicable anti-corruption laws or violations of our internal policies designed to ensure ethical business practices.

We are exposed to risks associated with an uncertain global economy.

Uncertain global economic conditions and slowing growth in China, Europe and the United States, along with difficulties in the financial markets, national debt concerns in various regions and government austerity measures, pose challenges to the industries in which we operate. Economic uncertainty and related factors, including unemployment, inflation and fuel prices, exacerbate negative trends in business and consumer spending and may cause our customers to push out, cancel, or refrain from placing orders for equipment or services. This may, in turn, reduce our net sales, reduce backlog, and affect our ability to convert backlog to sales. Uncertain market conditions, difficulties in obtaining capital, or reduced profitability may also cause some customers to scale back operations, exit businesses, merge with other manufacturers, or file for bankruptcy protection and potentially cease operations, which can also result in lower sales and/or additional inventory or bad debt expense for us. These conditions may similarly affect key suppliers, impairing their ability to deliver parts and potentially causing delays or added costs for delivery of our products. In addition, these conditions may lead to strategic alliances by, or consolidation of, other equipment manufacturers, which could adversely affect our ability to compete effectively. Uncertainty about future economic and industry conditions also makes it more challenging for us to forecast our operating results, make business decisions, and identify and prioritize the risks that may affect our businesses, sources and uses of cash, financial condition and results of operations. We may be required to implement additional cost reduction efforts, including restructuring activities, and/or modify our business model, which may adversely affect our ability to capitalize on opportunities in a market recovery. If we do not timely and appropriately adapt to changes resulting from the uncertain macroeconomic environment and industry conditions, or to difficulties in the financial markets, our business, financial condition and results of operations may be materially and adversely affected.

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

Natural disasters such as earthquakes, floods, severe weather conditions or other catastrophic events may severely affect our operations or those of our suppliers and customers. Such catastrophic events or future disasters may have a material adverse effect on our business.

Acts of terrorism, as well as events occurring in response or connection to them, including potential future terrorist attacks, rumors or threats of war, actual military conflicts or trade disruptions impacting our domestic or foreign customers or suppliers of parts, components and subassemblies, may negatively impact our operations by causing, among other things, 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 worldwide financial markets and economy. They could also result in economic recession. Any of these occurrences could have a significant adverse impact on our financial position and results of operations.

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. Our operating results, therefore, depend on the ability of these customers to sell products that require our equipment in their manufacture. Yingli accounted for 20%, 7% and 15% of our net revenues in fiscal 2013, 2012 and 2011, respectively. Many of our

customer relationships have been developed over a short period of time and certain customers are in their early 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 canceled 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 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, 2013, two customers individually represented 18% and 13% of accounts receivable. As of September 30, 2012 two customers individually represented 14% and 12% of accounts receivable. Yingli accounted for 18% and 14% of our accounts receivable balance as of September 30, 2013 and 2012, respectively. 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. A concentration of our receivables from one or a small number of customers places us at risk. 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. Our major customers may seek, and on occasion, may receive pricing, payment, intellectual property-related, or other commercial terms that are less favorable to the Company. If any one or more of our major customers does not pay us it could adversely affect our financial position and results of operations.

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 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 canceled prior to shipment, or not be accepted by the customer. Cancellations may result in inventory that we may not be able to sell or reuse if those products have been tailored for a specific customer's requirements and cannot then be sold without significant incremental cost. We have experienced cancellations in the past. 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.

If demand declines for horizontal diffusion furnaces and related equipment, or for other 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 almost exclusively with horizontal diffusion furnaces. 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 and manufacturing processes. 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.

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 horizontal diffusion furnaces in certain manufacturing processes for smaller chips on larger wafers. 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.

We may not be able to manage the business successfully through severe business cycles.

We may be unable to successfully expand or contract our business to meet fluctuating demands. Market fluctuations place significant strain on our management, personnel, systems and resources. In fiscal years 2010 and 2011, we

purchased additional equipment and real estate to significantly expand our manufacturing capacity and hired additional employees to support an increase in manufacturing, field service, research and development and sales and marketing efforts. During fiscal years 2012 and 2013, the rapid decline in demand has caused us to reduce headcount in manufacturing and field service and to reduce certain research and development costs. To successfully manage our growth, we believe we must effectively:

- maintain the appropriate number and mix of permanent, part-time, temporary and contract employees to meet the fluctuating demand for our products;

- train, integrate and manage personnel, particularly process engineers, field service engineers, sales and marketing personnel, and financial and information technology personnel to maintain and improve skills and morale;
- retain key management and augment our management team, particularly if we lose key members;
- continue to enhance our customer resource and manufacturing management systems to maintain high levels of customer satisfaction and efficiencies, including inventory control;
- implement and improve existing and new 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 rapidly changing cycles. If we are unable to manage these cycles effectively, we may not be able to take advantage of market opportunities, develop new technologies for the production of solar cells and other products, satisfy customer requirements, execute our business plan or respond to competitive pressures.

If governmental subsidies decline or if demand for solar energy declines, our Company may not be able to continue making substantial investments in our organization to develop new products for the solar industry which may have a material adverse effect on our business.

The solar energy sector is dependent upon governmental subsidies, some of which have been scaled back and are not guaranteed to continue. A further decline in these subsidies could reduce our ability to make investments in our Company and grow our business in this market. The solar industry is currently facing overcapacity in production. This overcapacity has a significant adverse impact on the demand for the capital equipment we supply to this industry. As a result of these risks there is no assurance that we will realize a return on these investments which may have a material effect on our business.

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 relationships with some customers are substantially dependent on personal relations and other contacts established by either our Executive Chairman or our President and Chief Executive Officer. Our relationships with major European customers that are strategically important to the development and testing of our N-type technology solar diffusion furnace and PECVD equipment are substantially dependent upon our President and Chief Executive Officer, Mr. Fokko Pentinga. 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.

Furthermore, it may not be feasible for any successor to maintain the same business relationships that our Executive Chairman, Mr. J.S. Whang, has established. Even though we are the beneficiary of life insurance policies on the life of Mr. Whang, in the amount of $2.0 million, there is no assurance that such amount will be sufficient to cover the cost of finding and hiring a suitable replacement for Mr. Whang. If we were to lose the services of either Mr. Whang or Mr. Pentinga for any reason, it could have a material adverse effect 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 needed to meet customer requirements.

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 solar industry continues to develop new technologies to increase the efficiencies and lower the costs of solar cells. Also, the semiconductor industry continues

to shrink the size of semiconductor devices. These and other evolving customer needs require us to continually respond with new product developments.

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 and win market acceptance. We must also manufacture these 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 product development, merger and acquisition activity or through the licensing of products from our technology partners. Potential disruptive technologies could have a material adverse effect on our business if we do not successfully 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.

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 and Kingstone, 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 our key employees and the 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 our R&D investments do not result in timely new products that can be sold at favorable prices and obtain market acceptance.

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, functionality and cost of ownership 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. 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. In addition, from time to time we receive funding from government agencies for certain strategic development programs to increase our research and development resources and address new market opportunities. As a condition to this government funding, we may be subject to certain record-keeping, audit, intellectual property rights-sharing and/or other obligations. If we do not successfully manage risks resulting from diversification and entry into new markets and industries, our business, financial condition and results of operations could be materially and adversely affected.

If we fail to maintain optimal inventory levels, our inventory obsolescence costs could increase, our liquidity could be significantly reduced or our revenue could decrease, any of which could have a material adverse effect on our business, financial condition and results of operations.

While we must maintain sufficient inventory levels to operate our business successfully and meet our customers' demands, accumulating excess inventory may have a significant unfavorable impact on our operating results and financial condition. Changing customer demands, supplier lead-times and uncertainty surrounding new product launches expose us to risks associated with excess inventory or shortages. Demand for products can change rapidly and

unexpectedly. Our products are manufactured using a wide variety of purchased parts and raw materials and we must maintain sufficient inventory levels to meet the demand for the products we sell. During peak years in the solar and semiconductor industries, increases in demand for capital equipment results in longer lead-times for many important system components. Future increases in demand could cause delays in meeting shipments to our customers. Because of the variability and uniqueness of customer orders, we try to avoid maintaining an extensive inventory of materials for manufacturing. However, long lead-times for important system components during industry upturns sometimes require us to carry higher levels of inventory and make larger purchase commitments than we would otherwise make. We may be unable to sell sufficient quantities of products in the event that market demand changes, resulting in increased risk of excess inventory that could lead to obsolescence or reduced liquidity as we fulfill our purchase commitments. On the other hand, if we do not have a sufficient inventory of a product to fulfill customer orders, we may lose orders or customers, which may adversely affect our business, financial condition and results of operations. We cannot assure that we can accurately predict market demand and events to avoid inventory shortages or inventories and purchase commitments in excess of our current requirements.

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. Although we make what we believe are reasonable efforts to ensure that parts are available from multiple suppliers, this may not always be practical or possible. Accordingly, some key parts are being procured from a single supplier or a limited group of suppliers. 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 and a pad supplier that produces a unique material used in the manufacture of our polishing templates. 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.

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. In the event of supplier capacity constraints, production disruptions, or failure to meet our requirements concerning quality, cost or performance factors, we may transfer our business to alternative sourcing which could lead to further delays, additional costs or other difficulties. 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, our financial position and results of operations may be materially and adversely affected.

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.

Cash flows may be insufficient to provide adequate working capital 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 may incur impairment charges to goodwill or long-lived assets.

We have acquired, and may acquire in the future, goodwill and other long-lived intangible assets. Goodwill and purchased intangible assets with indefinite useful lives are not amortized, but are reviewed for impairment at least

annually, typically during the fourth quarter of each fiscal year, and more frequently when events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. The review compares the fair value for each of our reporting units to its associated carrying value, including goodwill. Factors that could lead to impairment of goodwill and intangible assets include adverse industry or economic trends, reduced estimates of future cash flows, declines in the market price of our common stock, changes in our strategies or product portfolio, and restructuring activities. Our valuation methodology for assessing impairment requires management to make judgments and assumptions based on historical experience and projections of future operating performance. We may be required to record a charge to earnings during the period in which an impairment of goodwill or amortizable intangible assets is determined to exist, which could materially and adversely affect our results of operations.

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 could 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 flood, power interruption, and war, could significantly disrupt our ability to manufacture our products and operate our business. If any of our productions facilities or equipment were to experience any significant damage or downtime, we would be unable to meet our production targets, our business would suffer, and it could have a material adverse effect on our business, financial condition and results of operations.

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. Protecting and defending our patents domestically, and especially internationally, is costly. In addition, the process of seeking patent protection is lengthy and expensive. Therefore, 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 will successfully deter infringement by third parties. 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.

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, such as China, 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 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, incur costs to 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.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or prevent fraud. As a result, our stockholders could lose confidence in our financial reporting, which could have a negative impact on our business and the price of our common stock.

To maintain compliance with Section 404 of the Sarbanes-Oxley Act of 2002 we have assessed, strengthened and tested our system of internal controls. Despite our conclusion that our system of internal controls was effective as of September 30, 2013, we must continue to maintain our processes and systems and adapt them to changes in our business as it evolves. This continuous process of maintaining and adapting our internal controls and complying with Section 404 is expensive, time-consuming and requires significant management attention. We cannot be certain that our internal control measures will continue to provide adequate control over our financial reporting processes and ensure compliance with Section 404. Furthermore, as our business changes, our internal controls may become more complex and we may require significantly more resources to ensure our internal controls remain effective. In addition, if we reduce a portion of our workforce, as we have done recently, our ability to adequately maintain our internal controls may be adversely impacted. Failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results or cause us to fail to meet our reporting obligations. If we or our independent registered public accounting firm identify material weaknesses, the disclosure of that fact may result in negative investor perceptions of our Company and could cause a decline in the market price of our stock.

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

The manufacture and sale of our products, which, in our customers' operations, involve toxic materials and robotic machinery, 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 their defense or also settlement, cannot be estimated and could, individually or in the aggregate, materially harm our financial condition. We may also 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 or facilities, each of which could damage our financial position and results of operations.

Breaches or failures of our information technology systems may have a negative impact on our operating results and our reputation.

We may be subject to breaches or failures of our information technology systems caused by computer viruses, unauthorized access, sabotage, vandalism, terrorism or accident. Compromise of our information technology networks could result in unauthorized release of our confidential or proprietary information, or that of our customers and suppliers, as well as employee personal data. Breach of our information systems' security or failure of our systems may also cause a disruption in our manufacturing systems and other operations, and may cause us to fail to meet our financial reporting obligations.

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 effect on our earnings and cash flows.

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	Owned	N/A
Billerica, MA	Office, Mfg. & Warehouse	17,000 sf	$10,000	8/31/2014
Vaassen, The Netherlands	Office, Warehouse & Mfg.	54,000 sf	Owned	N/A
Vaassen, The Netherlands	Warehouse	23,000 sf	$11,000	3/31/2014
Vaassen, The Netherlands	Warehouse	23,000 sf	$6,000	3/31/2014
Clapiers, France	Office, Mfg. & Warehouse	12,000 sf	$9,000	9/30/2016 (1)
Shanghai, China	Office, Warehouse & Mfg.	13,000 sf	$12,000	3/31/2015
Shanghai, China	Office, Warehouse & Mfg.	13,000 sf	$12,000	9/30/2015
Polishing Supplies Segment				
Carlisle, PA	Office & Mfg.	22,000 sf	$11,000	6/30/2019

(1) This lease can be canceled by the Company with six months' notice.

ITEM 3. LEGAL PROCEEDINGS

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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"), is trading on the NASDAQ Global Market (formerly the NASDAQ National Market), under the symbol "ASYS." On December 2, 2013, the closing price of our Common Stock as reported on the NASDAQ Global Market was $7.47 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 2013 and 2012, as reported by the NASDAQ Global Market.

	Fiscal 2013		Fiscal 2012	
	High	Low	High	Low
First quarter	$3.42	$2.90	$11.60	$7.12
Second quarter	$4.85	$3.24	$11.60	$7.90
Third quarter	$7.93	$3.21	$8.40	$3.75
Fourth quarter	$7.70	$5.44	$4.43	$3.27

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, 2008.

HOLDERS

As of December 2, 2013, there were 469 shareholders of record of our Common Stock. Based upon a recent survey of brokers, we estimate there were approximately an additional 4,477 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, 2013, 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)	1,059,567	6.71	259,742
Equity compensation plans not approved by security holders	—		—
Total	1,059,567		259,742

(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

There were no purchases of equity securities in fiscal 2013.

25

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,				
	2013	2012	2011	2010	2009
Operating Data:					
Net revenue	$34,798	$81,539	$246,705	$120,019	$52,973
Gross profit	$4,313	$9,193	$90,657	$42,712	$15,019
Operating income (loss) [1]	$(19,994)	$(32,984)	$38,279	$15,909	$(1,938)
Net income (loss) attributable to Amtech Systems, Inc. [2]	$(20,069)	$(23,031)	$22,882	$9,563	$(1,589)
Earnings (loss) per share attributable to Amtech Systems, Inc.:					
Basic earnings (loss) per share	$(2.11)	$(2.43)	$2.41	$1.06	$(0.18)
Diluted earnings (loss) per share	$(2.11)	$(2.43)	$2.34	$1.04	$(0.18)
Order backlog	$26,766	$18,703	$85,892	$94,427	$32,357
Balance Sheet Data:					
Cash and cash equivalents	$37,197	$46,726	$67,382	$56,764	$42,298
Working capital	$42,861	$58,832	$89,797	$65,638	$55,868
Total assets	$110,947	$129,022	$205,865	$136,101	$92,526
Total current liabilities	$41,334	$42,611	$80,794	$50,816	$18,077
Long-term obligations	$2,810	$2,360	$2,740	$1,042	$644
Total equity	$66,803	$84,051	$122,331	$84,243	$73,805

(1) Includes $3.7 million of expense related to inventory write-downs in fiscal 2013.. Includes $12.8 million of expense related to inventory write-downs and loss contracts for inventory purchase commitments, and $5.4 million of impairment charges in fiscal 2012. Includes $2.9 million of expense related to reacquired shares in fiscal 2011.

(2) Includes $2.0 million, $5.6 million and $0.9 million of losses in fiscal 2013, 2012 and 2011, respectively, resulting from the 55% controlling interest in Kingstone acquired February 18, 2011.

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, financial position and off-balance sheet arrangements.
- Contractual Obligations and Commercial Commitments: a list of obligations and commercial commitments.
- Critical Accounting Policies: a discussion of critical accounting policies that require the exercise of judgments and estimates.
- Impact of Recently Issued Accounting Pronouncements: a discussion of how we are affected by recent pronouncements.

Overview

We operate in two segments: (i) the solar and semiconductor equipment segment and (ii) the polishing supplies segment. In our solar and semiconductor equipment segment, 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) equipment to the solar market. In our polishing supplies segment, we produce consumables and machinery for lapping (fine abrading) and polishing of materials, such as sapphire substrates, optical components, silicon wafers, numerous types of crystal materials, ceramics and metal components. Since the 2011 acquisition of Kingstone, we have advanced the development of an ion implanter to provide our solar customers with a more complete solution for their next-generation high-efficiency solar cell production.

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 2012 and 2013, the solar cell industry experienced a structural imbalance between supply and demand and we expect this structural imbalance to continue into 2014. This imbalance has negatively impacted our results of operations and is expected to do so in the future.

Our strategy has been, and continues to be, to grow the Company through strategic product development and acquisitions. In addition to internal product development, we have acquired companies with complementary products or products that serve adjacent process steps. In October 2007, we acquired R2D Automation SAS, which allowed us to provide our diffusion furnaces with integrated automation that is also sold as a stand-alone product. In February 2011, we acquired a 55% ownership interest in Kingstone Technology Hong Kong, Limited ("Kingstone"), a holding company that owns 100% of Kingstone Semiconductor Company Ltd., a Shanghai-based technology company specializing in ion implant solutions for the solar industry.

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,		
	2013	2012	2011
Net revenue	100.0 %	100.0 %	100.0 %
Cost of sales	77.1 %	73.0 %	62.8 %
Write-down of inventory	10.5 %	12.7 %	0.5 %
Losses on inventory purchase commitments	— %	3.0 %	— %
Gross margin	12.4 %	11.3 %	36.7 %
Selling, general and administrative	48.4 %	28.3 %	17.6 %
Impairment and restructuring charges	2.5 %	6.7 %	— %
Research and development	19.0 %	16.8 %	2.3 %
Expense related to reacquired shares	— %	— %	1.2 %
Operating income (loss)	(57.5)%	(40.5)%	15.6 %
Interest and other income, net	0.5 %	— %	— %
Income (loss) before income taxes	(57.0)%	(40.5)%	15.6 %
Income tax provision (benefit)	5.3 %	(6.5)%	6.6 %
Net income (loss)	(62.3)%	(34.0)%	9.0 %
Add: net loss attributable to noncontrolling interest	4.7 %	(5.6)%	0.3 %
Net income (loss) attributable to Amtech Systems, Inc.	(57.6)%	(28.4)%	9.3 %

Fiscal 2013 compared to Fiscal 2012

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. Since the majority of our revenue is generated from large thermal systems sales, revenue and operating income can be significantly impacted by the timing of system shipments, the net impact of revenue deferral on those shipments, and recognition of revenue based on customer acceptances. See Critical Accounting Policies – Revenue Recognition.

	Years Ended September 30,			
Segment	2013	2012	Inc (Dec)	%
	(dollars in thousands)			
Solar and semiconductor equipment segment	$26,368	$73,102	$(46,734)	(64)%
Polishing supplies segment	8,430	8,437	(7)	— %
Total net revenue	$34,798	$81,539	$(46,741)	(57)%

Net revenue for the years ended September 30, 2013 and 2012 were $34.8 million and $81.5 million, respectively; a decrease of $46.7 million or 57%. Revenue from the solar and semiconductor equipment segment decreased 64% due to the continued supply / demand imbalance in the solar market as well as the fiscal 2013 cyclical downturn in our semiconductor customers' capital equipment purchases. Net revenue from the solar market was $17.4 million and $44.2 million in fiscal 2013 and 2012, respectively; a 61% decrease. It is difficult to predict when the solar market will improve, but we expect the downturn to continue into 2014. Demand for products from our polishing supplies segment was consistent from fiscal 2012 to fiscal 2013.

28

Backlog and Orders

Our backlog as of September 30, 2013 and 2012 was $26.8 million and $18.7 million, respectively. Our backlog as of September 30, 2013 included approximately $17.1 million of orders and deferred revenue from our solar industry customers compared to $13.8 million as of September 30, 2012. New orders booked in fiscal 2013 were $43.6 million compared to $40.9 million in fiscal 2012. As the majority of the backlog is denominated in Euros, the strengthening of the Euro during fiscal 2013 resulted in an increase in backlog of approximately $0.9 million. At the end of fiscal 2013, two customers individually accounted for 53% and 13% of our total backlog, respectively. At the end of fiscal 2012, one customer accounted for 10% of our total backlog. Our order pipeline has remained slow with the exception of a large recent order for n-type cell technology and PECVD equipment.

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 subsequent 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. We have excluded from reported backlog approximately $25.7 million of customer orders that have not been cancelled, but are not expected to ship in the next twelve months.

Gross Profit and Gross Margin

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 percent of net revenue.

The timing of revenue recognition can have a significant effect on gross margin when a portion of 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.

	Years Ended September 30,			
Segment	2013	2012	Inc (Dec)	%
	(dollars in thousands)			
Solar and semiconductor equipment segment	$1,583	$6,458	$(4,875)	(75)%
Polishing supplies segment	2,730	2,735	(5)	— %
Total gross profit	$4,313	$9,193	$(4,880)	(53)%

Gross profit for the years ended September 30, 2013 and 2012 was $4.3 million and $9.2 million respectively; a decrease of $4.9 million or 53%. Gross margin for fiscal 2013 and 2012 was 12% and 11%, respectively, due primarily to inventory write-downs and losses on inventory purchase commitments of $3.7 million and $12.8 million in fiscal 2013 and 2012, respectively. The margins were also adversely affected by a significant reduction in manufacturing capacity utilization due to the cyclical decline in demand for our products. These items were only partially offset by the higher gross margins realized from the significant portion of net revenue resulting from recognition of previously deferred revenue upon customer acceptance. In fiscal 2013, we had a net recognition of previously-deferred profit of $7.5 million compared to $16.1 million in fiscal 2012. Gross profit on products from our polishing supplies segment was consistent from fiscal 2012 to fiscal 2013.

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, 2013	2012	Inc (Dec)	%
	(dollars in thousands)			
Solar and semiconductor equipment segment	$13,737	$20,861	$(7,124)	(34)%
Polishing supplies segment	3,093	2,194	899	41 %
Total selling, general and administrative expenses	$16,830	$23,055	$(6,225)	(27)%

Total selling, general and administrative (SG&A) expenses for the years ended September 30, 2013 and 2012 were $16.8 million and $23.1 million respectively, a decrease of $6.2 million or 27%. The decrease in SG&A expenses was due, in part, to lower commissions and shipping expenses related to lower revenues and also reflects significant company-wide cost control initiatives to reduce salaries, professional fees, travel and insurance expense. Partially offsetting the decrease in SG&A expenses is an increase in stock compensation expense to $2.5 million in fiscal 2013 from $1.8 million in fiscal 2012. The increase in stock compensation expense is due to the June 2013 acceleration of vesting and the cancellation of certain stock options.

Impairment and Restructuring Charges

Restructuring charges for the year ended September 30, 2013 were $0.9 million. There were no impairment charges in fiscal 2013. The company's cost-cutting efforts in fiscal 2013 included reductions-in-force which resulted in restructuring charges related primarily to severance costs. Impairment charges for the year ended September 30, 2012 were $5.4 million. In our periodic assessment of long-lived assets in the fourth quarter of fiscal 2012, we identified an impairment of the goodwill in two of our reporting units that serve the solar equipment market resulting in a $4.7 million impairment charge, due primarily to the supply / demand imbalance in the solar equipment market. Also, in fiscal 2012, a $0.7 million impairment charge was recorded for assets related to a product development project.

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 as well as materials, supplies and facilities used in producing prototypes. Reimbursement of research and development costs in the form of governmental research and development grants are netted against these expenses when certain requirements of the grant are met.

	Years Ended September 30, 2013	2012	2011
	(dollars in thousands)		
Research and development	$8,459	$14,723	$7,362
Grants earned	(1,865)	(1,029)	(1,578)
Net research and development	$6,594	$13,694	$5,784

Research and development costs (net of grants earned) for the fiscal year ended September 30, 2013 decreased $7.1 million compared to fiscal 2012. Decreased spending in research and development relates primarily to reduced activity and cost control efforts in solar research. We receive reimbursements through governmental research and development grants which are netted against these expenses. The increase in grants earned resulted primarily from grant funding for development of the solar ion implanter.

As described in Note 6 to the Consolidated Financial Statements included in this filing, our Kingstone subsidiary has entered into an agreement for the development of ion implanters for a non-solar application in China. Depending on its progress, this development project may result in a significant increase in research and development expenses.

Income Tax Provision

Our effective tax rate was negative (9%) in fiscal 2013 and 16% in 2012. The effective tax rate is the ratio of total income tax expense (benefit) to pre-tax income (loss). The negative effective tax rate in fiscal 2013 was due primarily to establishing an allowance on all deferred tax assets related to The Netherlands income taxes. The valuation allowance was recorded due to cumulative losses in The Netherlands. The effective tax rate in 2012 was lower than the 34% U.S. tax rate primarily due to the valuation allowance on net operating losses in China (related to the ion implant research and development) and the 25% tax rate applicable to the losses in The Netherlands.

The Financial Accounting Standards require that a valuation allowance be established when it is “more likely than not” that all or a portion of deferred tax assets will not be realized. A review of all available positive and negative evidence needs to be considered, including a company's performance, the market environment in which the company operates and the length of carryback and carryforward periods. According to those standards, it is difficult to conclude that a valuation allowance is not needed when the negative evidence includes cumulative losses in recent years. Therefore, cumulative losses weigh heavily in the overall assessment. As a result of the review, we concluded during fiscal 2013 that it was appropriate to establish a full valuation allowance for net deferred tax assets in the Netherlands and China, where cumulative losses have been incurred. Available tax planning strategies cause us to believe that it is more likely than not that the deferred tax assets related to the United States tax jurisdiction will be realized despite cumulative losses there.

Our future effective income tax rate depends on various factors, such as the amount of income (loss) in each tax jurisdiction, tax regulations governing each region, non-tax deductible expenses incurred as a percent of pre-tax income and the effectiveness of our tax planning strategies. At the end of 2011 we restructured our European operations to lower the tax rate on the Netherlands operations from 35% to a marginal rate of 25% and to as low as 5% on income derived from qualified new technologies, as we intend to permanently reinvest future Dutch earnings in our foreign operations. The effect of the restructure on our tax rate depends on the amount of income or loss earned in the Netherlands, as well as the portion of such income that can be demonstrated to have been derived from qualified new technologies, as well as the factors mentioned above.

Fiscal 2012 compared to Fiscal 2011

Net Revenue

Net revenue for the years ended September 30, 2012 and 2011 were $81.5 million and $246.7 million, respectively; a decrease of $165.2 million or 67%. Revenue decreased primarily due to significantly lower capital expenditures for equipment by our customers as they curtailed capacity expansion plans during the industry downturn, partially offset by increased recognition of previously-deferred revenue. Net revenue from the solar market was $44.2 million and $211.9 million in fiscal 2012 and 2011, respectively; a 79% decrease. Net revenue from all other markets served was $37.3 million in fiscal 2012 compared to $34.8 million in fiscal 2011, an increase of 7%, due primarily to increased demand from the semiconductor and LED markets.

Backlog

Our backlog as of September 30, 2012 and 2011 was $18.7 million and $85.9 million, respectively. Our backlog as of September 30, 2012 included approximately $13.8 million of orders and deferred revenue from our solar industry

customers compared to $71.2 million as of September 30, 2011. New orders booked in fiscal 2012 were $40.9 million compared to $239.8 million in fiscal 2011. As the majority of the backlog is denominated in Euros, the weakening of the Euro during fiscal 2012 resulted in a decrease in backlog of approximately $3.7 million. At the end of fiscal 2012, one customer accounted for 10% of our total backlog. At the end of fiscal 2011, two customers individually accounted for 22% and 10% of our total backlog, respectively. In fiscal 2012, $5.7 million of customer orders were canceled. These orders were not in our September 30, 2011 reported backlog as they were previously expected to ship beyond twelve months.

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 subsequent periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our backlog also includes revenue deferred pursuant to our revenue recognition policy, derived from orders that have already been shipped but which have not met the criteria for revenue recognition.

Gross Profit

Gross profit for the years ended September 30, 2012 and 2011 was $9.2 million and $90.7 million respectively; a decrease of $81.5 million or 90%. Gross margin for fiscal 2012 and 2011 was 11% and 37%, respectively. In fiscal 2012, our cost of goods sold includes $12.8 million of costs for inventory write-downs and losses on inventory purchase commitments. These losses resulted from the industry downturn and the overall decrease in manufacturing activities. Lower gross profit and gross margins were also negatively impacted by lower sales volumes which resulted in less efficient capacity utilization. These lower profits were partially offset by higher recognition of previously-deferred profit. In fiscal 2012, we had a net recognition of previously-deferred profit of $16.1 million compared to a net profit deferral of $16.6 million in fiscal 2011.

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, 2012 were $23.1 million or 28% of net revenue. For the year ended September 30, 2011, SG&A expenses were $43.7 million or 18% of net revenue. SG&A expenses include $1.8 million and $1.5 million of stock-based compensation expense for fiscal 2012 and 2011, respectively. The decrease in SG&A expenses was primarily due to lower commissions and shipping costs related to lower revenues and company-wide cost reduction initiatives.

Impairment and Restructuring Charges

Impairment charges for the year ended September 30, 2012 were $5.4 million. There were no impairment or restructuring charges in fiscal 2011.

The Company conducted its periodic assessment of long-lived assets in the fourth quarter of fiscal 2012. The Company identified an impairment of the goodwill in two of its reporting units that serve the solar equipment market resulting in a $4.7 million impairment charge, due primarily to the supply / demand imbalance in the solar equipment market. The Company also recorded $0.7 million in fiscal 2012 for an impairment charge for assets related to a product development project.

Research and Development

	Years Ended September 30,		
	2012	2011	2010
	(dollars in thousands)		
Research and development	$14,723	$7,362	$2,986
Grants earned	(1,029)	(1,578)	(868)

Net research and development	$13,694	$5,784	$2,118

Research and development costs for the fiscal year ended September 30, 2012 increased $7.9 million compared to fiscal 2011. Increased investment in research and development relates primarily to development of a solar ion implanter. Additional investments were made in the development of other technologies and processes for solar cell manufacturing to increase throughput and cell efficiency. We receive reimbursements through governmental research and development grants which are netted against these expenses.

Expense Related to Reacquired Shares

In fiscal 2011, an expense of $2.9 million was recorded in connection with the repurchase of Amtech shares for cash, such shares being those issued in the acquisition of Kingstone. In September 2011, the Company agreed to amend the original stock purchase agreement, to repurchase the shares for cash in the amount of $4.1 million, $2.9 million in excess of market value of those shares on the day of the repurchase, in order to protect Amtech's reputation as an acquirer of new technologies and businesses.

Income Tax Provision

Our effective tax rate was approximately 16% in fiscal 2012 and 42% in 2011. The effective tax rate is the ratio of total income tax expense (benefit) to pre-tax income (loss). The effective tax rate in 2012 was lower than in 2011and the 34% U.S. tax rate primarily due to the valuation allowance on net operating losses related to the ion implant research and development and the 25% tax rate applicable to the losses in The Netherlands.

Liquidity and Capital Resources

As of September 30, 2013 and 2012, cash and cash equivalents were $37.2 million and $46.7 million, respectively. As of September 30, 2013 and 2012, restricted cash was $5.1 million and $4.6 million, respectively. Restricted cash increased due to the receipt of funds in fiscal 2013 for the non-solar ion implant development project, partially offset by a decrease in customer deposits requiring bank guarantees collateralized by cash. Our working capital was $42.9 million as of September 30, 2013 and $58.8 million as of September 30, 2012. The decline in working capital results primarily from the net loss in 2013. The decrease in cash was primarily cash used in operating activities of $10.0 million discussed below and $0.2 million of cash used in investing activities discussed below. Our ratio of current assets to current liabilities was 2.0:1 as of September 30, 2013 compared to 2.4:1 as of September 30, 2012.

See information below regarding payments expected as a result of contractual obligations. 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 believe that our current cash and other sources of liquidity discussed below are adequate to support operations for at least the next 12 months.

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,		
	2013	2012	2011
	(dollars in thousands)		
Net cash provided by (used in) operating activities	$(9,953)	$(12,438)	$15,426
Net cash used in investing activities	$(178)	$(1,542)	$(6,238)
Net cash provided by (used in) financing activities	$(238)	$(4,108)	$2,058

Cash Flows from Operating Activities

Cash used in operating activities was $10.0 million and $12.4 million in fiscal years 2013 and 2012, respectively. Cash provided by our operating activities was $15.4 million in fiscal 2011. During fiscal 2013, cash declined due to losses from operations, adjusted for non-cash charges. Significant sources of cash in fiscal 2013 were primarily collections of accounts receivable and customer deposits. Partially offsetting the sources were income tax payments of approximately $8.7 million and decreases in liabilities such as deferred profit, accounts payable and other accruals. During fiscal 2012, uses of cash in operating activities resulted primarily from decreases in liabilities such as deferred profit, accrued income taxes, accounts payable and other accruals, partially offset by collections of accounts receivable. During fiscal 2011, cash was generated by earnings from operations, adjusted for non-cash charges. Additional cash was generated by increases in current liabilities, such as deferred profit, accrued income taxes and accrued compensation.

These increases in fiscal 2011 were partially offset by increases in inventory and accounts receivable resulting from the record volume of shipments.

Cash Flows from Investing Activities

Investing activities in fiscal 2013 and 2012 decreased significantly due primarily to the solar and semiconductor industry downturn. During fiscal 2013, 2012 and 2011, capital expenditures were $0.2 million, $1.3 million and $5.2 million respectively. Fiscal 2011 investments in fixed assets included the purchase of the existing corporate office building as well as capital investments in The Netherlands and France to support our growth and expansion. Also, during fiscal 2011, investing activities included the $1.1 million cash portion of the acquisition of a 55 percent interest in Kingstone.

Cash Flows from Financing Activities

In fiscal 2013, there were few financing activities. In fiscal 2012, cash was used to repurchase shares related to the Kingstone acquisition. In fiscal 2011, cash provided by financing activities was $2.1 million, consisting primarily of proceeds from employee exercises of stock options and the related tax benefits.

Off-Balance Sheet Arrangements

As of September 30, 2013, 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, 2013:

Contractual obligations	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	(dollars in thousands)				
Operating lease obligations:					
Buildings	$2,418	$968	$838	$409	$203
Office equipment	90	72	13	5	—
Vehicles	433	206	218	9	—
Total operating lease obligations	2,941	1,246	1,069	423	203
Purchase obligations	12,322	12,322	—	—	—
Total	$15,263	$13,568	$1,069	$423	$203
Other commercial obligations:					
Bank guarantees	$2,851	$2,851	$—	—	—

Our Kingstone subsidiary has an obligation to raise $6.1 million by July 2014 to meet its commitment to the project funding described in Note 6 to the Consolidated Financial Statements included in Item 8 of this filing. These commitments have been omitted from the table, as Amtech has no obligation or plan to fund Kingstone's commitments under this agreement.

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 and inventory purchase commitments, accounts receivable collectability, warranty and impairment of long-

lived assets. We base our estimates and judgments on historical experience, expectations regarding the future 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 as 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 cash flows and 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 identifying uncertain tax positions and estimating the amount of deferred tax assets that will be realized in the future and 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 and in determining whether certain tax benefits will be realized in the future. 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.

In fiscal 2013, 2012 and 2011, judgment was also exercised in determining the appropriate accounting for income taxes in connection with the reorganization of our Netherlands operations and estimating the appreciated value of certain intangibles that we transferred between taxing jurisdictions and the related tax on those transfers.

Inventory Valuation and Inventory Purchase Commitments. We value our inventory at the lower of cost or net realizable value. Costs for approximately 80% 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 to net realizable value 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. 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.

We must order components for our products and build inventory in advance of product shipments through issuance of purchase orders based on projected demand. These commitments typically cover our requirements for periods ranging from 30 to 180 days or longer when there a significant increase in demand or lead-times from suppliers. These purchase commitments may result in accepting delivery of components not needed to meet current demand. We accrue for estimated cancellation fees related to component orders that have been cancelled or are expected to be cancelled, and for excess inventories that will likely result in our taking delivery of ordered inventory items in excess of our projected needs. If there is an abrupt and substantial decline in demand for one or more of our products, an unanticipated change in technological requirements for any of our products, or a change in our suppliers' practice of not enforcing purchase commitments, we may be required to record additional charges for these items. This would negatively impact gross margin in the period when the charges are recorded.

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, 2013, 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 intangible assets are also tested for impairment at least annually. When factors indicate that a long-lived 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 in establishing the carrying value of goodwill and other long-lived assets. Those judgments and estimates are modified as economic and market conditions change. Changes in these conditions may result in an inability to recover the carrying value of these assets and, therefore, may result in future impairment charges. Below is a more detailed explanation of the procedures we perform.

We first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. As a result of our qualitative assessment, we determined that the polishing segment required no further impairment testing. If the qualitative factors indicate that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, 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 its carrying value. 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. This approach provides the closest estimate 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 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 calculation, while the market values tend to be forward looking. 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 a third-party market price 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 some of our 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 change in payroll and other expenses. Quantitatively, the discount rate is the assumption that has the most significant 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. Changes to economic and market assumptions could materially change the estimated fair values of the Company's reporting units and, therefore, may result in future impairment changes.

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 operations are denominated in currencies other than their functional currency. Our operations in the United States are conducted in their functional currency, the U.S. dollar. Our operations in Europe and China, conduct business primarily in their functional currencies, the Euro and Renminbi, but occasionally enter into transactions denominated in U.S. dollars. 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.

During fiscal 2013 and 2012, we did not hold any stand-alone or separate derivative instruments. We incurred net foreign currency transaction losses of less than $0.1 million in fiscal 2013 and fiscal 2012. As of September 30, 2013, our foreign subsidiaries had $1.5 million of assets (cash and receivables) denominated in U.S. dollars, rather than 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 2013, our foreign subsidiaries had $4.6 million of accounts payable, consisting primarily of amounts owed 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 $0.5 million. Our net investment in and long-term advances to our foreign operations totaled $43.0 million as of September 30, 2013. A 10% change in the value of the Euro relative to the U.S. dollar would cause an approximately a $4.3 million foreign currency translation adjustment, a type of other comprehensive income (loss), which would be a direct adjustment to our stockholders' equity. In fiscal 2013, we recognized a net other comprehensive gain of $2.2 million from translation adjustments.

During fiscal 2013 and 2012, U.S. dollar denominated sales of our European operations were $1.5 million and $1.1 million, respectively. As of September 30, 2013, sales commitments denominated in a currency other than the functional currency of our transacting operation were $0.6 million. Our lead-times to fulfill these commitments generally range between 13 and 26 weeks. A 10% change in the relevant exchange rates between the time the order was taken and the time of shipment would cause our gross profit on such orders to be $0.1 million greater or less than expected on the date the order was taken. As of September 30, 2013, purchase commitments denominated in a currency other than the functional currency of our transacting operation totaled $ 0.5 million. A 10% change in the relevant exchange rates between the time the purchase order was placed and the time the order is received would not cause our cost of such items to be significantly greater or less than expected on the date the purchase order was placed.

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	40
Consolidated Balance Sheets: September 30, 2013 and 2012	41
Consolidated Statements of Operations: Years ended September 30, 2013, 2012 and 2011	42
Consolidated Statements of Comprehensive Income (Loss): Years ended September 30, 2013, 2012, and 2011	43
Consolidated Statements of Stockholders' Equity: Years ended September 30, 2013, 2012 and 2011	44
Consolidated Statements of Cash Flows: Years ended September 30, 2013, 2012 and 2011	45
Notes to Consolidated Financial Statements	46

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
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, 2013 and 2012, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended September 30, 2013. The Company's management is responsible for these consolidated financial statements. 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2013 and 2012, and the results of their operations and their cash flows for each of the years in the three-year period ended September 30, 2013, in conformity with U.S. generally accepted accounting principles.

/s/ MAYER HOFFMAN MCCANN P.C.

Phoenix, Arizona
December 11, 2013

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, 2013	September 30, 2012
Current Assets		
Cash and cash equivalents	$37,197	$46,726
Restricted cash	5,134	4,644
Accounts receivable		
Trade (less allowance for doubtful accounts of $638 and $517 at September 30, 2013 and September 30, 2012, respectively)	4,829	7,486
Unbilled and other	3,194	10,807
Inventories	22,001	25,670
Deferred income taxes	1,330	3,460
Refundable income taxes	7,580	—
Other	2,930	2,650
Total current assets	84,195	101,443
Property, Plant and Equipment - Net	11,066	12,387
Deferred income taxes - Long Term	1,260	470
Other Assets - Long Term	2,443	2,271
Intangible Assets - Net	3,502	4,096
Goodwill	8,481	8,355
Total Assets	$110,947	$129,022
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts payable	$5,472	$5,780
Accrued compensation and related taxes	3,778	5,311
Accrued warranty expense	1,454	2,687
Deferred profit	3,067	10,236
Customer deposits	11,253	3,958
Other accrued liabilities	10,140	7,499
Income taxes payable	6,170	7,140
Total current liabilities	41,334	42,611
Income Taxes Payable Long-term	2,810	2,360
Total Liabilities	44,144	44,971
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: 9,550,809 and 9,483,588 at September 30, 2013 and September 30, 2012, respectively	96	95

Additional paid-in capital	79,610	77,377
Accumulated other comprehensive loss	(4,556)	(6,817)
Retained earnings (deficit)	(8,004)	12,065
Total Stockholders' Equity	67,146	82,720
Noncontrolling interest	(343)	1,331
Total Equity	66,803	84,051
Total Liabilities and Stockholders' Equity	$110,947	$129,022

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,		
	2013	2012	2011
Revenue, net of returns and allowances	$34,798	$81,539	$246,705
Cost of sales	26,833	59,511	154,881
Write-down of inventory	3,652	10,380	1,167
Losses on inventory purchase commitments	—	2,455	—
Gross profit	4,313	9,193	90,657
Selling, general and administrative	16,830	23,055	43,739
Research and development	6,594	13,694	5,784
Impairment and restructuring charges	883	5,428	—
Expense related to reacquired shares	—	—	2,855
Operating income (loss)	(19,994)	(32,984)	38,279
Interest and other income, net	147	66	30
Income (loss) before income taxes	(19,847)	(32,918)	38,309
Income tax provision (benefit)	1,860	(5,320)	16,190
Net income (loss)	(21,707)	(27,598)	22,119
Add: net loss attributable to noncontrolling interest	1,638	4,567	763
Net income (loss) attributable to Amtech Systems, Inc.	$(20,069)	$(23,031)	$22,882
Income (Loss) Per Share:			
Basic income (loss) per share attributable to Amtech shareholders	$(2.11)	$(2.43)	$2.41
Weighted average shares outstanding	9,529	9,471	9,480
Diluted income (loss) per share attributable to Amtech shareholders	$(2.11)	$(2.43)	$2.34
Weighted average shares outstanding	9,529	9,471	9,764

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

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements Of Comprehensive Income (Loss)
(in thousands)

	Years Ended September 30,		
	2013	2012	2011
Net income (loss)	$(21,707)	$(27,598)	$22,119
Foreign currency translation adjustment	2,225	(4,853)	(1,136)
Comprehensive income (loss)	(19,482)	(32,451)	20,983
Comprehensive loss attributable to noncontrolling interest	1,674	4,681	803
Comprehensive income (loss) attributable to Amtech Systems, Inc.	$(17,808)	$(27,770)	$21,786

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

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements Of Stockholders' Equity
(in thousands)

	Common Stock			Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity	Non-controlling Interest	Total Equity
	Number of Shares	Amount	Additional Paid-In Capital					
Balance at September 30, 2010	9,210	$ 92	$ 72,919	$ (982)	$ 12,214	$ 84,243	$ —	$ 84,243
Net income					22,882	22,882	(763)	22,119
Translation adjustment				(1,096)		(1,096)	(40)	(1,136)
Deferred tax asset recorded due to legal reorganization			4,025			4,025		4,025
Acquired interest in Kingstone	153	2	3,833			3,835	6,815	10,650
Share repurchase	(153)	(2)	(1,223)			(1,225)		(1,225)
Tax benefit of stock compensation			855			855		855
Stock compensation expense			1,470			1,470		1,470
Restricted shares released	43	—				—		—
Stock options exercised	178	2	1,328			1,330		1,330
Balance at September 30, 2011	9,431	$ 94	$ 83,207	$ (2,078)	$ 35,096	$ 116,319	$ 6,012	$ 122,331
Net income					(23,031)	(23,031)	(4,567)	(27,598)
Translation adjustment				(4,739)		(4,739)	(114)	(4,853)
Write-off of foreign tax credits due to legal reorganization			(7,595)			(7,595)		(7,595)
Stock compensation expense			1,763			1,763		1,763
Restricted shares released	52	1	(1)			—		—
Stock options exercised	1	—	3			3		3
Balance at September 30, 2012	9,484	$ 95	$ 77,377	$ (6,817)	$ 12,065	$ 82,720	$ 1,331	$ 84,051
Net loss					(20,069)	(20,069)	(1,638)	(21,707)
Translation adjustment				2,261		2,261	(36)	2,225
Tax deficiency of stock compensation			(264)			(264)		(264)
			2,472			2,472		2,472

Stock compensation expense							
Restricted shares released	59	1	1		2		2
Stock options exercised	8	—	24		24		24
Balance at September 30, 2013	9,551	$ 96	$ 79,610	$ (4,556)	$ (8,004)	$ 67,146	$ (343)	$ 66,803

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,		
	2013	2012	2011
Operating Activities			
Net income (loss)	$(21,707)	$(27,598)	$22,119
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	2,667	2,858	2,814
Write-down of inventory	3,652	10,380	1,167
Loss on inventory purchase commitments	—	2,455	—
Provision for allowance for doubtful accounts	169	300	139
Deferred income taxes	1,368	3,781	(635)
Impairment of long-lived assets	—	5,428	—
Non-cash share based compensation expense	2,472	1,763	1,470
Changes in operating assets and liabilities:			
Change in restricted cash	(326)	1,781	(274)
Accounts receivable	10,629	23,700	(21,399)
Inventories	(221)	(2,130)	(14,194)
Accrued income taxes	(7,818)	(15,543)	7,834
Prepaid expenses and other assets	(360)	4,677	(1,740)
Accounts payable	(495)	(2,807)	(3,644)
Accrued liabilities and customer deposits	7,489	(5,387)	5,137
Deferred profit	(7,472)	(16,096)	16,632
Net cash provided by (used in) operating activities	(9,953)	(12,438)	15,426
Investing Activities			
Purchases of property, plant and equipment	(178)	(1,306)	(5,183)
Investment in acquisitions, net of cash	—	—	(1,055)
Other	—	(236)	—
Net cash used in investing activities	(178)	(1,542)	(6,238)
Financing Activities			
Proceeds from issuance of common stock, net	26	3	1,330
Repurchase of common stock	—	(4,080)	—
Payments on long-term obligations	—	(31)	(127)
Excess tax benefit (deficiency) of stock compensation	(264)	—	855
Net cash provided by (used in) financing activities	(238)	(4,108)	2,058
Effect of Exchange Rate Changes on Cash	840	(2,568)	(628)
Net Increase (Decrease) in Cash and Cash Equivalents	(9,529)	(20,656)	10,618
Cash and Cash Equivalents, Beginning of Year	46,726	67,382	56,764
Cash and Cash Equivalents, End of Year	$37,197	$46,726	$67,382
Supplemental Cash Flow Information:			
Income tax refunds	$18	$1,115	$282
Income tax payments	8,678	5,030	8,451
Supplemental Non-cash Financing Activities:			
Transfer inventory to capital equipment	—	1,586	—
Issuance of common stock for acquisition of interest in Kingstone	—	—	3,835

Repurchase of common stock financed with current liabilities	—	—	1,225

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

Notes to Consolidated Financial Statements
For the Years Ended September 30, 2013, 2012 and 2011

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 is developing an ion implanter to provide its customers with a more complete solution for their next-generation high-efficiency solar cell production. The Company sells these products to manufacturers of solar cells, silicon wafers, and semiconductors worldwide, particularly in Asia, United States and Europe.

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 the Company and its wholly owned subsidiaries and subsidiaries in which it has a controlling interest. The Company reports noncontrolling interests in consolidated entities as a component of equity separate from the Company's equity. 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.

Change in Accounting Estimate - The Company regularly reviews inventory quantities and inventory purchase commitments and writes down excess and obsolete inventory to its net realizable value, and records a loss for expected purchase order cancellation charges and for excess inventory purchase commitments that cannot be cancelled. The write-down is primarily based on historical inventory usage adjusted for expected changes in product demand and production requirements. Due to a downturn in the solar industry, product demand and production requirements have declined significantly. As the Company began its annual budget review in the fourth quarter of fiscal 2012, it determined that the downturn was expected to continue at least in 2013. As a result, the Company recorded a write-down of inventory of $10.4 million for the fiscal year ended September 30, 2012. The Company also recorded a loss of $2.5 million for the fiscal year ended September 30, 2012 on inventory purchase commitments. In fiscal 2012, the inventory write-down and loss on inventory purchase commitments reduced operating income by $12.8 million, reduced net income attributable to Amtech shareholders by $9.7 million and increased basic and diluted loss per share by $1.01 cents per share. In fiscal 2013, the Company determined that the downturn was expected to continue into 2014. As a result, the Company recorded a write-down of inventory of $3.7 million for fiscal year 2013. The write-down of inventory reduced net income attributable to Amtech shareholders by $3.7 million and increased basic and diluted loss per share by $0.39 cents per share.

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 cash flows and 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 the 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.

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,		
	2013	2012	2011
	(dollars in thousands)		
Deferred revenue	$3,371	$11,200	$29,666
Deferred costs	304	964	2,058
Deferred profit	$3,067	$10,236	$27,608

Cash Equivalents – Cash equivalents in the United States consist of money market mutual funds invested in securities issued by the U.S. Government and its agencies and time deposits. In Europe, cash equivalents consist of money market mutual funds and time deposits. The fair value of the cash equivalents is based on Level One inputs in the fair value hierarchy as defined by ASC No. 820, Fair Value Measurements and Disclosures.

Restricted Cash – Restricted cash of $5.1 million and $4.6 million as of September 30, 2013 and 2012, respectively, includes collateral for bank guarantees required by certain customers from whom deposits have been received in advance of shipment and cash received from research and development grants related to our ion implant technology to be used for research and development projects.

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,		
	2013	2012	2011
	(dollars in thousands)		
Balance at beginning of year	$517	$246	$181
Provision	199	271	115
Write offs	(78)	—	(50)
Balance at end of year	$638	$517	$246

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.

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, LEDs 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 (approximately 60% of total cash balances) are primarily invested in US Treasuries or are in financial institutions insured by the Federal Deposit Insurance Corporation (FDIC). The remainder of the Company's cash is maintained in banks in The Netherlands, France and China that are uninsured.

As of September 30, 2013, two customers individually represented 18% and 13% of accounts receivable. As of September 30, 2012, two customers individually represented 14% and 12% of accounts receivable. Accounts receivable from Yingli Green Energy (Yingli) was 18% and 14% as of September 30, 2013 and 2012, respectively.

Refer to Note 9, 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 80% 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, 2013	September 30, 2012
	(dollars in thousands)	
Purchased parts and raw materials	$11,757	$19,644
Work-in-process	7,104	2,328
Finished goods	3,140	3,698
	$22,001	$25,670

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 $2.0 million, $2.2 million and $2.1 million in fiscal 2013, 2012 and 2011, 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, 2013	September 30, 2012
	(dollars in thousands)	
Land, building and leasehold improvements	$10,960	$10,476
Equipment and machinery	7,630	7,272
Furniture and fixtures	5,685	5,458
	24,275	23,206
Accumulated depreciation and amortization	(13,209)	(10,819)
	$11,066	$12,387

Goodwill - Goodwill and intangible assets with indefinite lives are not subject to amortization, but are tested for impairment when it is determined that it is more likely than not that the fair value of a reporting unit or the indefinite-lived intangible asset is less than its carrying amount, typically at the end of the fiscal year, or more frequently if circumstances dictate. In fiscal 2012, the Company recorded a charge for impairment of goodwill in two of its reporting units. See Note 11, "Impairment Charge" for a description of the facts and circumstances leading to the goodwill impairment charge.

The changes in the carrying amount of goodwill for the year ended September 30, 2013 are as follows.

	Solar and Semiconductor	Polishing Supplies and Equipment	Total
	(dollars in thousands)		
Balance at the beginning of year			
Goodwill	$12,362	$728	$13,090
Accumulated impairment losses	(4,735)	—	(4,735)
	7,627	728	8,355
Net exchange differences	126	—	126
Balance at the end of the year			
Goodwill	12,563	728	13,291
Accumulated impairment losses	(4,810)	—	(4,810)
	$7,753	$728	$8,481

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 $0.6 million, $0.7 million and $0.8 million in fiscal 2013, 2012 and 2011, respectively. The aggregate amortization expense for the intangible assets for each of the four succeeding fiscal years is estimated to be $0.7 million, $0.6 million, $0.4 million, $0.3 million in 2014, 2015, 2016, and 2017. Amortization expense for the four succeeding years does not include $1.6 million for in-process research and development. The in-process research and development will be amortized over its useful life when it has reached technological feasibility.

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. See Note 11, “Impairment Charge” for a description of the facts and circumstances surrounding the impairment charges for the fiscal year ending September 30, 2012.

The following is a summary of intangibles:

	Useful Life	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
		Years Ended September 30,					
		2013			2012		
		(dollars in thousands)					
Non-compete agreements	4-8 years	$1,065	$ (717)	$348	$1,057	$ (468)	$589
Customer lists	10 years	871	(532)	339	828	(432)	396
Technology	5-10 years	2,426	(1,422)	1,004	2,341	(1,085)	1,256
In-process research and development	(1)	1,600	—	1,600	1,600	—	1,600
Other	2-10 years	341	(130)	211	325	(70)	255
		$6,303	$ (2,801)	$3,502	$6,151	$ (2,055)	$4,096

(1) The in-process research and development will be amortized over its useful life when it has reached technological feasibility.

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,		
	2013	2012	2011
	(dollars in thousands)		
Beginning balance	$2,687	$2,265	$1,843
Warranty expenditures	(1,360)	(1,831)	(1,199)
Reserve provision	127	2,253	1,621
Ending balance	$1,454	$2,687	$2,265

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 as well as materials, supplies and facilities used in producing prototypes. Payments received for research and development grants prior to the meeting of milestones are recorded as unearned research and development grant liabilities and included in other accrued liabilities on the balance sheet. When certain contract requirements are met, governmental research and development grants are netted against research and development expenses.

	Years Ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Research and development	$8,459	$14,723	$7,362
Grants earned	(1,865)	(1,029)	(1,578)
Net research and development	$6,594	$13,694	$5,784

Shipping Expense – Shipping expenses of $0.8 million, $1.7 million and $5.9 million for fiscal 2013, 2012 and 2011 are included in selling, general and administrative expenses.

50

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 less than $0.1 million, less than $0.1 million and $0.2 million in fiscal 2013, 2012 and 2011, 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 in the United States for all subsidiaries except those in the Netherlands, France, Hong Kong and China, where separate returns are filed. The Netherlands operations file separate returns in that country and, prior to fiscal 2012, were included in the United States consolidated return. The Company computes deferred income tax assets and liabilities based upon cumulative temporary differences between financial reporting and taxable income, carryforwards available and enacted tax laws. The Company also accrues a liability for uncertain tax positions when it is more likely than not that such tax will be incurred.

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 a 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.

In the third quarter of fiscal 2013, the Company's Board of Directors approved the acceleration of the vesting of one half of the unvested stock options with an exercise price of $2.95 and all of the remaining unvested stock options with exercise prices of $6.15 and $7.98 per share for approximately 110 employees holding options to purchase approximately 0.4 million shares of common stock. The Company concluded that the modification to the stated vesting provisions was substantive after the Company considered the volatility of its share price and the exercise price of the amended options in relation to recent share values. Because the modification was considered substantive, the remaining unearned compensation expense of $0.9 million was recorded as an expense in the third quarter of fiscal 2013. The weighted-average exercise price of the options that were accelerated was $5.77.

Effective June 30, 2013, current and former executive officers of the Company voluntarily cancelled approximately 0.1 million stock options, vested and unvested, that were issued with exercise prices of $14.79 and $17.12 per share. At the time of the cancellation, all of the options with an exercise price of $14.79 were fully vested. The Company recognized the remaining unearned compensation expense of $0.3 million for the unvested portion of the stock options with an exercise price of $17.12 per share in the third quarter of fiscal 2013.

Stock-based compensation expense for the fiscal years ended September 30, 2013, 2012 and 2011 reduced the Company's results of operations as follows:

	Years Ended September 30,		
	2013	2012	2011
	(dollars in thousands, except per share amounts)		
Effect on income before income taxes (1)	$(2,472)	$(1,763)	$(1,470)
Effect on income taxes	$512	$255	$495
Effect on net income	$(1,960)	$(1,508)	$(975)

(1) Stock-based compensation expense is included in selling, general and administrative expense

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 employed 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 2022. Options vest over 1 to 4 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,		
	2013	2012	2011
Risk free interest rate	1%	1%	2%
Expected life	6 years	6 years	6 years
Dividend rate	0%	0%	0%
Volatility	70%	70%	70%

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

Pensions—The Company has retirement plans covering substantially all employees. The principal plans are the multiemployer defined benefit pension plans of the Company’s operations in the Netherlands and France and the plan for hourly union employees in Pennsylvania and the Company's defined contribution plan that covers substantially all of the employees in the United States. The multiemployer plans in the United States and France are insignificant.

The Company’s employees in The Netherlands, approximately 110, participate in a multi-employer union plan Pensioenfonds Metaal en Techniek (PMT), determined in accordance with the collective bargaining agreements effective for the industry in the Netherlands. This collective bargaining agreement has no expiration date. This multiemployer union plan covers approximately 34,000 companies and 1.2 million participants. Amtech's contribution to the multiemployer union plan is less than 5.0% of the total contributions to the plan. The plan monitors its risks on a global basis, not by company or employee, and is subject to regulation by Dutch governmental authorities. By law (the Dutch Pension Act), a multiemployer union plan must be monitored against specific criteria, including the coverage ratio of the plan assets to its obligations. This coverage ratio must exceed 104.3% for the total plan. Every company participating in a Dutch multiemployer union plan contributes a premium calculated as a percentage of its total pensionable salaries, with each company subject to the same percentage contribution rate. The premium can fluctuate yearly based on the coverage ratio of the multiemployer union plan. The pension rights of each employee are based upon the employee’s average salary during employment, the years of service, and the participant's age at the time of retirement.

The Company's net periodic pension cost for this multiemployer union plan for any period is the amount of the required contribution for that period. A contingent liability may arise from, for example, possible actuarial losses relating to other participating entities because each entity that participates in a multiemployer union plan shares in the actuarial risks of every other participating entity or any responsibility under the terms of a plan to finance any shortfall in the plan if other entities cease to participate

The coverage ratio of the Dutch multiemployer union plan is 101.5% as of September 30, 2013. Because of the low coverage ratio PMT prepared and executed a “Recovery Plan” which was approved by De Nederlandsche Bank, the Dutch central bank, which is the supervisor of all pension companies in the Netherlands. As a result of the Recovery Plan, the pension rights decreased 6.3% in April 2013 and the employer's premium percentage increased to 16.6% of pensionable wages. The coverage ratio is calculated by dividing the plan assets by the total sum of pension liabilities and is based on actual market interest. If the coverage ratio does not increase to 104.3% by December 31, 2013, pension rights may decrease again. As of September 30, 2013 PMT's total plan assets were $63.7 billion and the actuarial present value of accumulated plan benefits was $63.1 billion.

Below is a table of contributions made by the Company to multiemployer pension plans.

	Contributions		
	Years Ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Pensioenfonds Metaal en Techniek (PMT)	$879	$1,021	$913
Other plans	163	181	192
Total	$1,042	$1,202	$1,105

The Company matches employee funds to the Company's defined contribution plans on a discretionary basis. The match was insignificant in fiscal years 2013, 2012 and 2011.

Reclassifications – Certain reclassifications have been made to prior year financial statements to conform to the current year presentation. Specifically, prepaid income taxes of $1.4 million and $4.3 million as of September 30, 2012 and 2011, respectively, were previously stated as a separate line item in current assets, prepaid income taxes, and are now included in the line item, other assets - long term, in the Company's consolidated balance sheets.

Impact of Recently Issued Accounting Pronouncements

In July 2013, the FASB issued ASU No. 2013-11 "Income Taxes (Topic 740)." An unrecognized tax benefit, or a portion of an unrecognized tax benefit, should be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward, except as follows. To the extent a net operating loss carryforward, a similar tax loss, or a tax credit carryforward is not available at the reporting date under the tax law of the applicable jurisdiction to settle any additional income taxes that would result from the disallowance of a tax position or the tax law of the applicable jurisdiction does not require the entity to use, and the entity does not intend to use, the deferred tax asset for such purpose, the unrecognized tax benefit should be presented in the financial statements as a liability and should not be combined with deferred tax assets. The assessment of whether a deferred tax asset is available is based on the unrecognized tax benefit and deferred tax asset that exist at the reporting date and should be made presuming disallowance of the tax position at the reporting date. The amendments in this Update are effective for fiscal years, and interim periods within those years, beginning after December 15, 2013. We expect to adopt the amendment effective October 1, 2014. We do not expect that that the adoption will have a material impact on the Company's consolidated financial statements.

In March 2013, the FASB issued ASU No. 2013-05 "Foreign Currency Matters (Topic 830)." The objective of the amendments in this Update is to resolve the diversity in practice about which codification subtopic applies to the release of the cumulative translation adjustment into net income when a parent either sells a part or all of its investment in a foreign entity or no longer holds a controlling financial interest in a subsidiary or group of assets that is a business within a foreign entity.

The amendments in this Update are effective prospectively for fiscal years (and interim reporting periods within those years) beginning after December 15, 2013. The Company will evaluate the impact of the Update as future transactions occur.

In February 2013, The FASB issued ASU No. 2013-04 "Liabilities (Topic 405)," The guidance in this Update requires an entity to measure obligations resulting from joint and several liability arrangements for which the total amount of

the obligation within the scope of this guidance is fixed at the reporting date, as the sum of the following:
a. The amount the reporting entity agreed to pay on the basis of its arrangement among its co-obligors.
b. Any additional amount the reporting entity expects to pay on behalf of its co-obligors.

The guidance in this Update also requires an entity to disclose the nature and amount of the obligation as well as other information about those obligations. The amendments in this Update are effective for fiscal years, and interim periods within those years, beginning after December 15, 2013. The Company does not expect this Update to have a material impact on the Company's consolidated financial statements.

2. Stock-Based Compensation

Stock-Based Plans –The 2007 Employee Stock Incentive 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 2022. Options issued by the Company vest over 1 to 4 years. The Company may also grant restricted stock awards under the 2007 Plan.

As of September 30, 2013 and 2012, the unamortized expense related to restricted shares was $0.4 million and $0.8 million, respectively, and it is expected to be recognized over two years.

Restricted stock transactions and outstanding are summarized as follows:

	Years Ended September 30,					
	2013		2012		2011	
	Awards	Weighted Average Grant Date Fair Value	Awards	Weighted Average Grant Date Fair Value	Awards	Weighted Average Grant Date Fair Value
Beginning Outstanding	127,975	$9.06	120,970	$9.42	128,751	$6.34
Awarded	—	—	60,600	7.98	35,517	17.28
Released	(58,771)	7.81	(51,595)	8.72	(43,298)	6.78
Forfeited	(50)	7.98	(2,000)	7.22	—	—
Ending Outstanding	69,154	$10.13	127,975	$9.06	120,970	$9.42

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	194,142	839,004	Mar. 2020
1998 Employee Stock Option Plan	500,000	—	72,710	Jan. 2008
Non-Employee Directors Stock Option Plan	350,000	65,600	147,853	Mar. 2020
		259,742	1,059,567	

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,					
	2013		2012		2011	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of period	891,293	$9.37	611,384	$10.02	636,283	$7.59
Granted	312,850	2.95	285,400	7.98	155,233	16.89
Exercised	(8,450)	3.08	(600)	5.33	(178,882)	7.35
Forfeited/canceled	(136,126)	15.75	(4,891)	9.50	(1,250)	6.94
Outstanding at end of period	1,059,567	6.71	891,293	$9.37	611,384	$10.02
Exercisable at end of period	874,591	$7.13	400,638	$9.25	232,018	$8.31
Weighted average grant-date fair value of options granted during the period	$1.82		$4.95		$10.57	

The following tables summarize information for stock options outstanding and exercisable as of September 30, 2013:

	Options Outstanding			
Range of Exercise Prices	Number Outstanding	Remaining Contractual Life (in years)	Average Exercise Price	Aggregate Intrinsic Value (in thousands)
2.95-3.00	305,050	9.2	$2.95	$1,327
3.01-7.00	271,683	5.1	5.07	606
7.01-8.00	295,920	7.9	7.94	—
8.01-15.00	113,087	5.9	10.49	—
15.01-23.00	73,827	7.1	17.54	—
	1,059,567	7.3	$6.71	$1,933
Vested and expected to vest as of September 30, 2013	1,057,477	6.7	$7.29	$1,925

	Options Exercisable		
Range of Exercise Prices	Number Exercisable	Weighted Average Exercise Price	Aggregate Intrinsic Value (in thousands)
2.95-3.00	149,087	$2.95	$649
3.01-7.00	271,683	5.07	606
7.01-8.00	295,920	7.94	—
8.01-15.00	98,775	10.48	
15.01 - 23.00	59,126	17.47	—
	874,591	$7.13	$1,255

The aggregate intrinsic value in the tables above represents the total pretax intrinsic value, based on the Company's closing stock price of $7.30 per share as of September 30, 2013, 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, 2013, 2012 and 2011 was less than $0.1 million, less than $0.1 million and $1.3 million, respectively.

3. Earnings Per Share

Basic earnings per share is computed by dividing net income (loss) available to common stockholders 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 1,130,000, 1,020,000 and 145,000 shares are excluded from the fiscal 2013, 2012 and 2011 earnings per share calculations as they are anti-dilutive.

	2013	2012	2011
	(dollars in thousands, except per share amounts)		
Basic Earnings Per Share Computation			
Net income (loss) attributable to Amtech Systems, Inc.	$(20,069)	$(23,031)	$22,882
Weighted Average Shares Outstanding:			
Common stock	9,529	9,471	9,480
Basic earnings (loss) per share attributable to Amtech shareholders	$(2.11)	$(2.43)	$2.41
Diluted Earnings Per Share Computation			
Net income (loss) attributable to Amtech Systems, Inc.	$(20,069)	$(23,031)	$22,882
Weighted Average Shares Outstanding:			
Common stock	9,529	9,471	9,480
Common stock equivalents (1)	—	—	284
Diluted shares	9,529	9,471	9,764
Diluted earnings (loss) per share attributable to Amtech shareholders	$(2.11)	$(2.43)	$2.34

(1) The number of common stock equivalents is calculated using the treasury stock method and the average market price during the period.

4. Stockholders' Equity

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.

5. Other Accrued Liabilities

Other accrued liabilities consist of the following:

	September 30, 2013	September 30, 2012
	(dollars in thousands)	
Unearned research and development grants	$5,935	$1,160
Loss on inventory purchase commitments	1,289	2,422
Other	2,916	3,917
	$10,140	$7,499

6. Commitments and Contingencies

Purchase Obligations – As of September 30, 2013, we had unrecorded purchase obligations in the amount of $12.3 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, canceled or terminated.

Development Project – During the quarter ended June 30, 2013, Shanghai Kingstone Semiconductor Company Ltd. ("Kingstone") entered into an agreement with certain government agencies in Shanghai, China for the purpose of

developing ion implanters for a non-solar application. As of September 30, 2013, Kingstone has begun the first phase of this development project and received the first $2.6 million of grant funds for the project. Under the arrangement, Kingstone has agreed that by July 2014 it will have in place $6.1 million of its commitment to the project. The agreement will terminate upon the occurrence of certain events or if the project does not pass the first phase project evaluation. Otherwise, Kingstone has a commitment to provide additional funding to the project by December 2015. Amtech owns 55% of Kingstone Technology Hong King Limited, which owns 100% of Shanghai Kingstone Semiconductor Company Ltd. Amtech has no obligation or plan to fund Kingstone's commitments under this agreement.

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

Operating Leases – The Company leases buildings, vehicles and equipment under operating leases. Rental expense under such operating leases was $1.0 million, $1.4 million, $1.2 million in fiscal 2013, 2012 and 2011, respectively. As of September 30, 2013, future minimum rental commitments under non-cancelable operating leases with initial or remaining terms of one year or more totaled $2.9 million, of which $1.2 million, $0.7 million, $0.4 million, $0.2 million and $0.2 million is payable in fiscal 2014, 2015, 2016, 2017 and 2018, respectively, and $0.2 million, thereafter.

7. Major Customers and Foreign Sales

In fiscal 2013, one customer accounted for 20% of net revenue . In fiscal 2012, one customer accounted for 11% of net revenue. In fiscal 2011, two customers individually accounted for 15% and 14% of net revenue. Yingli accounted for 20%, 7% and 15% of our net revenue in fiscal 2013, 2012 and 2011, respectively.

Our net revenues for fiscal 2013, 2012 and 2011 were to customers in the following geographic regions:

	Years Ended September 30,					
	2013		2012		2011	
United States	20	%	13	%	6	%
Taiwan	14	%	9	%	16	%
China	39	%	43	%	69	%
Other	11	%	14	%	3	%
Total Asia	64	%	66	%	88	%
Germany	5	%	8	%	3	%
Other	11	%	13	%	3	%
Total Europe	16	%	21	%	6	%
	100	%	100	%	100	%

8. Business Segments

The Company operates in two segments: the solar and semiconductor equipment segment and the polishing supplies segment. In the solar and semiconductor equipment segment, 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) equipment. In the polishing supplies segment, the Company produces consumables and machinery for lapping (fine abrading) and polishing of materials, such as sapphire substrates, optical components, silicon wafers, numerous types of crystal materials, ceramics and

metal components.

Information concerning our business segments is as follows:

	Years ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Net revenue:			
Solar and semiconductor equipment	$26,368	$73,102	$233,804
Polishing supplies and equipment	8,430	8,437	12,901
	$34,798	$81,539	$246,705
Operating income (loss):			
Solar and semiconductor equipment	$(14,377)	$(26,236)	$46,712
Polishing supplies and equipment	1,282	1,405	3,648
Non-segment related loss	(6,899)	(8,153)	(12,081)
	$(19,994)	$(32,984)	$38,279

	Years ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Capital expenditures:			
Solar and semiconductor equipment	$98	$1,121	$5,106
Polishing supplies and equipment	80	185	77
	$178	$1,306	$5,183
Depreciation and amortization expense:			
Solar and semiconductor equipment	$2,501	$2,717	$2,589
Polishing supplies and equipment	166	141	225
	$2,667	$2,858	$2,814

	September 30, 2013	September 30, 2012
	(dollars in thousands)	
Identifiable assets:		
Solar and semiconductor equipment	$106,723	$123,923
Polishing supplies and equipment	4,224	5,099
	$110,947	$129,022
Goodwill:		
Solar and semiconductor equipment	$7,753	$7,627
Polishing supplies and equipment	728	728
	$8,481	$8,355

9. Geographic Regions

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

	Years Ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Net revenue:			
The Netherlands	$17,615	$48,294	$195,404
United States	11,855	27,638	24,079
France	5,328	5,584	26,347
China	—	23	875
	$34,798	$81,539	$246,705
Operating income (loss):			
The Netherlands	$(11,139)	$(18,686)	$28,724
United States	(4,346)	(1,025)	(1,742)
France	(815)	(3,041)	12,992
China	(3,694)	(10,232)	(1,695)
	$(19,994)	$(32,984)	$38,279

	As of September 30,	
	2013	2012
Net long-lived assets (excluding intangibles and goodwill)		
The Netherlands	$8,733	$9,555
United States	1,160	1,448
France	552	676
China	621	708
	$11,066	$12,387

10. Income Taxes

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

	Year Ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Current:			
United States	$(150)	2,440	$800
Foreign	800	(9,380)	15,910
State	(110)	(90)	110
Total current	540	(7,030)	16,820
Deferred:			
United States	(290)	—	(100)
Foreign	1,610	1,700	(520)
State	—	10	(10)
Total deferred	1,320	1,710	(630)
Total provision (benefit)	$1,860	$(5,320)	$16,190

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

	Year Ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Tax provision (benefit) at the U.S. rate	$(6,750)	$(11,190)	$13,410
Effect of permanent book-tax differences	970	2,010	510
State tax provision	(110)	(80)	100
Valuation allowance for net deferred tax assets	5,850	1,740	470
Uncertain tax items	450	(240)	1,620
Expiration of foreign net operating loss	—	2,320	170
Difference between U.S. and foreign rates	1,440	—	—
Other items	10	120	(90)
	$1,860	$(5,320)	$16,190

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,		
	2013	2012	2011
	(dollars in thousands)		
Deferred tax assets - current:			
Capitalized inventory costs	$130	$90	150
Inventory write-downs	620	600	590
Accrued warranty	200	20	(580)
Deferred profits	800	2,510	6,820
Accruals and reserves not currently deductible	490	240	2,580
Deferred tax assets - current	$2,240	$3,460	$9,560
Valuation allowance	(910)	—	—
Deferred tax assets - current net of valuation allowance	$1,330	$3,460	$9,560
Deferred tax assets (liabilities)- non-current:			
Stock option expense	700	470	270
Book vs. tax basis of acquired assets	(1,130)	(1,280)	(760)
Foreign and state net operating losses	9,000	3,640	850
Book vs. tax depreciation and amortization	60	100	300
Foreign tax credits	520	—	—
Other deferred tax assets	(350)	140	90
Total deferred tax assets - non-current	8,800	3,070	750
Valuation allowance	(7,540)	(2,600)	(860)
Deferred tax assets (liabilities) - non-current, net of valuation allowance	$1,260	$470	$(110)

Changes in the deferred tax valuation allowance are as follows:

	Year Ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Balance at the beginning of the year	$2,600	$860	$390
Additions to valuation allowance	5,850	1,740	470
Balance at the end of the year	$8,450	$2,600	$860

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.

At September 30, 2013, the Company has net operating loss carryforwards in some states, The Netherlands, China, Hong Kong and France which expire in varying amounts between 2013 and 2021. We have established a valuation allowance on all deferred tax assets related to these foreign and state net operating loss carryforwards, except those in France, as based on the weight of available evidence, it is more likely than not that they will not be realized.

Tax payments of $8.7 million were made and tax refunds of less than $0.1 million were received during fiscal 2013.

62

The Company applies the provisions of FASB Interpretation No. 48 (“FIN 48”), “Accounting for Uncertainty in Income Taxes”, (now codified as FASB ASC 740, “Income Tax”). In this regard, an uncertain tax position represents the Company's expected treatment of a tax position taken in a filed tax return, or planned to be taken in a future tax return, that has not been reflected in measuring income tax expense for financial reporting purposes. Approximately $1.8 million of this total represents the amount that, if recognized, would favorably affect our effective income tax rate in future periods.

A reconciliation of the beginning and ending amount of our unrecognized tax benefits is summarized as follows:

	Year Ended September 30,		
	2013	2012	2011
	(dollars in thousands)		
Balances at beginning of the year	$2,360	$2,630	$1,010
Additions (reductions) related to current year tax positions	—	(390)	1,210
Additions related to tax positions taken in prior years	530	360	450
Reductions related to settlements with tax authorities	—	(240)	—
Reductions due to lapse of statute of limitations	(80)	—	(40)
Balance at the end of the year	$2,810	$2,360	$2,630

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. We recognized a net expense for interest and penalties of $0.5 million, $0.4 million and $0.2 million for fiscal years 2013, 2012 and 2011, respectively. Income taxes payable long-term on the consolidated balance sheets includes a cumulative accrual for potential interest and penalties of $1.2 million and $0.7 million as of September 30, 2013 and 2012 respectively. During fiscal 2012, we recorded a benefit of $2.4 million, resulting from the reversal of liabilities in taxing jurisdictions where a tax examination was finalized.

The Company does not expect that the amount of our tax reserves for uncertain tax positions will materially change in the next 12 months other than the continued accrual of interest and penalties.

The Company and one or more of its subsidiaries file income tax returns in The Netherlands, Germany, France and other foreign jurisdictions, as well as the U.S. and various states in the U.S. 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.

These open years contain certain matters that could be subject to differing interpretations of applicable tax laws and regulations as they relate to the amount, timing, or inclusion of revenues and expenses, or the sustainability of income tax positions of the Company and its subsidiaries. During fiscal year 2012, the IRS examination for the fiscal year ending September 30, 2009 was closed without adjustment.

11. 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 value include: projected revenues, material costs and the rates of increase in payroll and other expenses. Projected future cash flows are discounted at a risk-free rate of return adjusted for various risk premiums.

The Company conducted its periodic assessment of long-lived assets in the fourth quarter of fiscal 2012 and identified the need for an impairment charge in two of its reporting units that serve the solar equipment market that is included in the Company's Solar and Semiconductor Segment. The assessment identified the need to record an impairment charge related to goodwill in the amount of $4.7 million, due primarily to the supply / demand imbalance in the solar equipment market, the expectation that the market downturn would continue into 2013 and the decline in market value of shares of solar companies.

The Company also recorded charges of $0.7 million in fiscal 2012 for impairment of assets related to license agreements with one of its technology partners. As a result of our technology partner's financial difficulties, their possible inability to service the product and insufficient revenues, management determined that the carrying value of the related assets was not recoverable.

The Company conducted its periodic assessment of long-lived assets in the fourth quarter of fiscal 2013 and determined there was no impairment. The Company recorded restructuring charges of $0.9 million in fiscal 2013 primarily related to severance costs incurred as a result of the reductions-in-force at certain operations.

12. Selected Quarterly Data (Unaudited)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Fiscal Year 2013:	(in thousands, except per share amounts)			
Revenue	$9,357	$8,118	$10,398	$6,925
Gross margin	$1,378	$2,453	$(2,677)	$3,159
Provision for income taxes	$(480)	$(800)	$2,560	$580
Net loss attributable to Amtech Systems, Inc.	$(4,194)	$(2,092)	$(12,101)	$(1,682)
Comprehensive loss attributable to Amtech Systems, Inc.	$(2,791)	$(3,555)	$(11,387)	$(75)
Net loss per share attributable to Amtech Systems, Inc.:				
Basic earnings per share	$(0.44)	$(0.22)	$(1.27)	$(0.18)
Shares used in calculation	9,494	9,539	9,539	9,543
Diluted earnings per share	$(0.44)	$(0.22)	$(1.27)	$(0.18)
Shares used in calculation	9,494	9,539	9,539	9,543
Fiscal Year 2012:				
Revenue	$24,728	$21,566	$24,300	$10,945
Gross margin	$7,201	$4,048	$4,804	$(6,860)
Provision for income taxes	$(320)	$(220)	$(1,110)	$(3,670)
Net loss attributable to Amtech Systems, Inc.	$(876)	$(5,079)	$(2,965)	$(14,111)
Comprehensive loss attributable to Amtech Systems, Inc.	$(4,607)	$(2,877)	$(6,816)	$(13,470)
Net loss per share attributable to Amtech Systems, Inc.:				
Basic earnings per share	$(0.09)	$(0.54)	$(0.31)	$(1.49)
Shares used in calculation	9,446	9,479	9,479	9,482
Diluted earnings per share	$(0.09)	$(0.54)	$(0.31)	$(1.49)
Shares used in calculation	9,446	9,479	9,479	9,482

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

64

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, 2013.

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, 2013.

There were no changes in our internal controls over financial reporting that occurred during the year ended September 30, 2013, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

Pursuant to Paragraph G(3) of the General Instructions to Form 10-K, the information required by Part III of Form 10-K are incorporated by reference to Amtech's Definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with its 2014 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.

66

SIGNATURES

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	Executive Chairman and Chairman of the Board	December 11, 2013
* Fokko Pentinga	Chief Executive Officer and President (Principal Executive Officer)	December 11, 2013
/s/ Bradley C. Anderson Bradley C. Anderson	Executive Vice President – Finance and Chief Financial Officer (Principal Financial and Accounting Officer)	December 11, 2013
* Michael Garnreiter	Director	December 11, 2013
* Alfred W. Giese	Director	December 11, 2013
* Egbert J.G. Goudena	Director	December 11, 2013
* Robert F. King	Director	December 11, 2013

*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	Amended and Restated Articles of Incorporation, as amended through February 6, 2012.	A
3.2	Certificate of Designations, Preferences and Privileges of the Series A Convertible Preferred Stock (Par Value $.01 Per Share) of Amtech Systems, Inc., dated as of April 21, 2005.	B
3.3	Amended and Restated Bylaws of Amtech Systems, Inc., dated as of January 4, 2008.	C
4.1	Amended and Restated Rights Agreement dated as of December 15, 2008, by between Amtech Systems, Inc. and Computershare Trust Company, N.A., as rights agent, 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.	D
4.2	Form of Accredited Investor Subscription Agreement for the Series A Convertible Preferred Stock.	B
10.1	Amtech Systems, Inc. 1998 Stock Option Plan, as amended through March 29, 2002.	E
10.2	Non-Employee Directors Stock Option Plan, effective July 8, 2005 as amended through March 11, 2010.	F
10.3	2007 Employee Stock Incentive Plan of Amtech Systems, Inc., as amended through March 11, 2010.	F
10.4	Second Amended and Restated Employment Agreement between Amtech Systems, Inc. and Jong S. Whang, dated February 9, 2012.	A
10.5	Amendment, dated as of July 1, 2012, to the Second Amended and Restated Employment Agreement between Amtech Systems, Inc. and Jong S. Whang, dated as of February 9, 2012.	G
10.6	Employment Agreement between Amtech Systems, Inc. and Fokko Pentinga, dated June 29, 2012.	H
10.7	Amendment, dated as of July 1, 2012, to the Employment Agreement between Amtech Systems, Inc. and Fokko Pentinga, dated as of June 29, 2012.	G
10.8	Change of Control Severance Agreement, dated as of March 10, 2008 between Amtech Systems, Inc. and Bradley Anderson.	K
10.9	Amended and Restated Change of Control and Severance Agreement, dated March 11, 2010, between Amtech Systems, Inc. and Robert T. Hass.	F
10.10	Change of Control and Severance Agreement, dated as of April 25, 2011, between Amtech Systems, Inc. and Jeong Mo Hwang PhD.	I
10.11	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.	L
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.	M
10.13	Stock Purchase and Sale Agreement by and among Amtech Systems, Inc., Silicon Jade Limited, Kingstone Technology Hong Kong Limited and the shareholders of Silicon Jade Limited, dated as of January 27, 2011.	N
10.14	Amendment to the Kingstone Stock Purchase and Sale Agreement, dated as of January 27, 2011, by and among Amtech Systems, Inc., Silicon Jade Limited, effective as of September 30, 2011.	O
10.15	Second Amendment, dated June 28, 2013, to the Second Amended and Restated Employment Agreement between Amtech Systems, Inc. and Jong S. Whang, dated as of February 9, 2012.	P

10.16	Second Amendment, dated June 28, 2013, to the Employment Agreement between Amtech Systems, Inc. and Fokko Pentinga, dated as of June 29, 2012.	P
10.17	Amendment, dated June 28, 2013, to the Change of Control Severance Agreement between Amtech Systems, Inc. and Bradley C. Anderson, dated as of March 10, 2008.	P
10.18	Employment Agreement and Release between Amtech Systems, Inc. and Robert T. Hass, dated as of June 28, 2013.	P

10.19	Employment Agreement and Release between Amtech Systems, Inc. and Jeong Mo Hwang PhD, dated as of June 28, 2013.	P
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	*
101.INS	XBRL Instance Document	**
101.SCH	XBRL Taxonomy Extension Schema Document	**
101.PRE	Taxonomy Presentation Linkbase Document	**
101.CAL	XBRL Taxonomy Calculation Linkbase Document	**
101.LAB	XBRL Taxonomy Label Linkbase Document	**
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	**

_____

*	Filed herewith.
**	Pursuant to applicable securities laws and regulations, the Company is deemed to have complied with the reporting obligation relating to the submission of interactive data files in such exhibits and is not subject to liability under any anti-fraud provisions or other liability provisions of the federal securities laws as long as the Company has made a good faith attempt to comply with the submission requirements and promptly amends the interactive data files after becoming aware that the interactive data files fail to comply with the submission requirements. In addition, users of this data are advised that, pursuant to Rule 406T of Regulation S-T, these interactive data files are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933 or Section 18 of the Securities Exchange Act of 1934 and otherwise are not subject to liability under these sections.
+	Indicates management contract or compensatory plan or arrangement.
A	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2011.
B	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on April 28, 2005.
C	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 8, 2008.
D	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 15, 2008.
E	Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the 1998 Stock Option Plan), filed with the Securities and Exchange Commission on February 11, 2003.
F	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 17, 2010.
G	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2012.
H	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 6, 2012.
I	Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on April 26, 2011.
J	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2006.
K	Incorporated by reference to Amtech's Current Report on Form 8-K/A, filed with the Securities and Exchange Commission on December 3, 2012.
L	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2007.
M	Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on October 11, 2007.
N	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2011.
O	Incorporated by reference to Amtech's Annual Report on Form 10-K for the quarterly year ended September 30, 2011.
P	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2013.