

AXT INC  
Form 10-K  
March 22, 2010

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# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

## Form 10-K

(Mark One)

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

**For the fiscal year ended December 31, 2009**

**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: 000-24085**

**AXT, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of  
incorporation or organization)

**94-3031310**

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

**4281 Technology Drive, Fremont, California**

(Address of principal executive offices)

**94538**

(Zip Code)

Registrant's telephone number, including area code: **(510) 683-5900**

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

**Title of each class**  
Common Stock, \$0.001 par value

**Name of each exchange on which registered**  
The NASDAQ Stock Market LLC

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

**None**

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

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

## Edgar Filing: AXT INC - Form 10-K

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

Indicate by check mark 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 (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). ☐ Yes ☐ No

Indicate by checkmark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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

Large accelerated filer ☐

Accelerated filer ☐

Non-accelerated filer ☒

Smaller reporting company ☐

(Do not check if a smaller reporting company)

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

The aggregate market value of the voting stock held by non-affiliates of the registrant, based upon the closing sale price of the common stock on June 30, 2009 as reported on the Nasdaq Global Market, was approximately \$32,225,971. Shares of common stock held by each officer, director and by each person who owns 5% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not a conclusive determination for other purposes.

As of February 25, 2010, 30,880,515 shares, \$0.001 par value, of the registrant's common stock were outstanding.

### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement for the registrant's 2010 annual meeting of stockholders to be filed with the Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this form are incorporated by reference into Part III of this Form 10-K report. Except for those portions specifically incorporated by reference herein, such document shall not be deemed to be filed with the Commission as part of this Form 10-K.

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This Annual Report (including the following section regarding Management's Discussion and Analysis of Financial Condition and Results of Operations) contains forward-looking statements regarding our business, financial condition, results of operations and prospects. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements in this Annual Report. Additionally, statements concerning future matters such as industry trend, the development of new products, enhancements or technologies, sales levels, expense levels and other statements regarding matters that are not historical are forward-looking statements.

Although forward-looking statements in this Annual Report reflect the good faith judgment of our management, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include without limitation those discussed under the heading "Risk Factors" in Item 1A below, as well as those discussed elsewhere in this Annual Report. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report. We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this Annual Report. Readers are urged to carefully review and consider the various disclosures made in this Annual Report, which attempt to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

**Item 1. Business**

AXT, Inc. ("AXT", "we," "us," and "our" refer to AXT, Inc. and all of its subsidiaries) is a leading developer and producer of high-performance compound and single element semiconductor substrates, including substrates made from gallium arsenide (GaAs), indium phosphide (InP) and germanium (Ge). We currently sell the following substrate products in the sizes and for the applications indicated:

Substrates	Substrate Diameter	Applications
GaAs (semi-insulating)	2", 3", 4", 5", 6"	Power amplifiers and radio frequency integrated circuits for wireless handsets (cell phones)
		Direct broadcast television
		High-performance transistors
		Satellite communications
GaAs (semi-conducting)	2", 3", 4"	High brightness light emitting diodes
		Lasers
		Optical couplers
InP	2", 3", 4"	Broadband and fiber optic communications
Ge	2", 4"	Satellite and terrestrial solar cells

## Optical applications

We manufacture all of our semiconductor substrates using our proprietary vertical gradient freeze (VGF) technology. Most of our revenue is from sales of GaAs substrates. We manufacture all of our products in the People's Republic of China (PRC or China), which generally has favorable costs for facilities and labor compared to comparable facilities in the United States, Europe or Japan. We also have five joint ventures in China that provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our final manufactured products. We consolidate, for accounting



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purposes, three of these joint ventures and have equity interests of 25% in each of the other two. We use our direct sales force in the United States and independent sales representatives in Europe and Asia to market our substrates. Our ten largest customers for 2009 were: Arima Optoelectronics Corporation, Avago Technologies Manufacturing (Singapore) Pte. Ltd., AZUR Space Solar Power GmbH, the IQE group, Osram Opto Semiconductors GmbH, Picogiga International SAS, Sumika Electronic Materials, Inc., Sumitomo Chemical Co., Ltd., Visual Photonics Epitaxy Co., Ltd., and Xiamen Sanan Optoelectronics Co., Ltd. As the demand for compound semiconductor substrates is expected to increase, we believe that we are well-positioned to leverage our PRC-based manufacturing capabilities and access to favorably priced raw materials to increase our market share.

On March 17, 2009, our then-chief executive officer Dr. Philip C.S. Yin resigned as chairman of our Board and as chief executive officer. On July 20, 2009, the Board appointed Dr. Morris S. Young as chief executive officer. Dr. Young continues to serve as a member of the Board of Directors of the Company but is no longer eligible for compensation for his services as a director but instead would be paid compensation as disclosed on the Current Report on Form 8-K filed by the Company with the Securities and Exchange Commission on July 20, 2009. On October 29, 2009, we announced three executive promotions. Raymond A. Low, formerly AXT's vice president, corporate controller and acting chief financial officer, was appointed vice president and chief financial officer. Davis Zhang, formerly AXT's president of joint venture operations, was appointed president of AXT China Operations, with responsibility for managing and developing AXT's joint venture operations, as well as assisting the chief executive officer with the management of AXT's manufacturing facilities in China. Robert G. Ochrym, formerly AXT's vice president of business development, was appointed vice president of business development, strategic sales and marketing. His responsibilities include sales for the North American East Coast and Europe, and together with John J. Cerilli, vice president of global sales and marketing, maximizing customer support around the world. He will also be responsible for developing sales and marketing strategies, major sale contract negotiations, major market identification and other strategic sales and marketing functions. These executive promotions were disclosed on the Current Report on Form 8-K filed by the Company with the Securities and Exchange Commission on October 30, 2009.

On March 28, 2008, we completed the sale of our Fremont, California facility and received net proceeds of approximately \$5.1 million after deducting commissions and selling expenses. On July 1, 2008, we exercised our right to redeem the taxable variable rate revenue bond and repaid all outstanding indebtedness and accrued interest under the terms of the revenue bond of approximately \$6.4 million. Accordingly, all of our remaining obligations under the revenue bond have terminated and the related restricted deposits have been released. In September 2008, we obtained an express line of credit from our bank and drew down \$3 million and classified the same amount as restricted deposits as of December 31, 2008. The proceeds from the express line of credit were used in operations. In the fourth quarter of 2009 we paid down the \$3 million line of credit. As of December 31, 2009, we had available cash, cash equivalents and short-term investments of \$35.4 million.

We were incorporated in California in December 1986 and reincorporated in Delaware in May 1998. We changed our name from American Xtal Technology, Inc. to AXT, Inc. in July 2000. Our principal corporate office is located at 4281 Technology Drive, Fremont, California 94538, and our telephone number at this address is (510) 683-5900.

## **Industry Background**

Certain electronic and opto-electronic applications have performance requirements that exceed the capabilities of conventional silicon substrates and often require high-performance compound or single element substrates. Examples of higher performance non-silicon based substrates include GaAs, InP, gallium nitride (GaN), silicon carbide (SiC) and Ge.

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For example, power amplifiers and radio frequency integrated circuits for wireless handsets and other wireless devices are made with semi-insulating GaAs substrates. Semi-conducting GaAs substrates are used to create opto-electronic products including high brightness light emitting diodes (HBLEDs) which are often used to backlight wireless handsets and liquid crystal display (LCD) TVs and for automotive and general illumination applications. InP is a high performance semiconductor substrate used in broadband and fiber optic applications. Ge substrates are used in emerging applications such as solar cells for space and terrestrial photovoltaic applications.

Our business and operating results depend in significant part upon capital expenditures of semiconductor designers and manufacturers, which in turn depend upon the current and anticipated market demand for products incorporating semiconductors from these designers and manufacturers. Our business also depends in part on worldwide economic conditions. Following the severe recession in the United States and in other key international economies that began during the fourth quarter of 2008, we began to see improvement in the demand environment for our products worldwide in the second half of 2009 that contributed to our strengthening revenue results.

As we move into 2010, there continue to be areas of opportunity for our business. One of the most interesting is the projected growth of smart phones and other sophisticated Internet-connected devices, such as netbooks, that support more advanced features and access to new web-based applications and services. In addition to improving sales of these products, the benefit to AXT from the sales of more feature-rich, sophisticated devices is that they require a greater content of gallium arsenide in order to meet the speed and functionality requirements that consumers have come to expect. Even with the steep decline in spending associated with 2G legacy networks, carriers continue to invest in 3G, 3G+ and 4G in order to remain competitive and attract new subscribers. This network upgrade enables full performance capability of the video, gaming and Internet browsing capabilities of these next generation handsets and wireless devices and is driving increases in wireless subscribers in key geographic areas around the world as well as a compelling upgrade cycle for new devices. Since 2006, we have more than tripled our 6-inch gallium arsenide capacity in order to meet this increasing demand for our products and we plan to continue to expand as new qualifications and growing demand require greater production volume.

The LED market is experiencing growth in a broad range of applications, such as backlighting, signage, general illumination and automotive. LED-based products are becoming increasingly common as the technology offers benefits in terms of cost, efficiency and performance over older technologies. AXT has historically focused its efforts in the high-end market and while we plan to continue to do so, we are also exploring opportunities to participate in the lower-end market as well. This market is geared today towards novelty products and is therefore very margin constrained. However, volumes are high and growing rapidly. In the future, we believe that this market will provide the entry into general illumination applications, as these applications will need lower cost LED devices in order to gain critical mass. Significant product development is underway from industry leaders to create affordable LED-based light bulbs and we believe it will be important to have a presence in this market as it develops.

The concentrator photovoltaic (CPV) market for germanium is also continuing to grow, albeit from a smaller base. Growth in the global solar industry is expected in 2010 as there is increasing interest in the replacement of fossil fuel resources with sustainable alternatives such as solar power and solar modules and a renewed interest in renewable energy technology, particularly in the United States and Europe. At the same time, we believe that improvements in conversion efficiency for germanium are occurring, which we believe will enable this technology to become more affordable and therefore, more widely utilized, in the future.

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**The AXT Advantage**

We believe that we benefit from the following advantages:

*Low-cost manufacturing operation in the PRC.* Since 2004, we have manufactured all of our products in China, which generally has favorable costs for facilities and labor compared to comparable facilities in the United States or Europe. As of December 31, 2009, approximately 1,063 of our 1,091 employees (including employees at our consolidated joint ventures) are in China. Our primary competitors have their manufacturing operations in Germany or Japan.

*Favorable access to raw materials.* Our joint ventures provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our final manufactured products. These materials include gallium, arsenic, germanium, germanium dioxide, paralytic boron nitride crucibles and boron oxide. As a result, we believe that our joint ventures will enable us to meet potential increases in demand from our customers by providing a more stable supply of raw materials at lower prices.

*Flexible manufacturing infrastructure.* Our total manufacturing space in China is approximately 190,000 square feet, 160,000 square feet of which we currently use. We believe that our competitors typically purchase crystal growing furnaces from original equipment manufacturers. In contrast, we design and build our own VGF crystal growing furnaces, which we believe should allow us to increase our production capacity more quickly and cost effectively.

Given these advantages, we believe that, when the worldwide economies begin to improve, the demand for compound semiconductor substrates may again increase. Once demand begins to recover, we believe that we are well-positioned to leverage our PRC-based manufacturing capabilities and access to favorably priced raw materials to begin to increase our market share.

**Strategy**

Our goal is to become the leading worldwide supplier of high-performance compound and single element semiconductor substrates. Key elements of our strategy include:

*Continue to provide customers high and consistent quality products and service.* We seek to improve our manufacturing processes continually in order to meet and exceed our customers' high product quality standards, ensure on-time delivery of our products and optimize the cost of ownership. We expect to continue to improve our manufacturing processes in 2010 by adding some additional equipment, automating additional processes, and streamlining performance. In addition, we plan to continue to enhance our support functions, including service and applications engineering.

*Increase market share.* We intend to leverage our product quality, competitive pricing and lead times both to establish relationships with new customers and to increase our market share with current customers in the integrated circuits for wireless devices and HBLED markets. We also intend to explore opportunities to participate in the low-end LED market, where volumes are high and growing rapidly.

*Flexible capacity to meet customers' increasing demand for substrates.* Since 2006, we have tripled our 6-inch semi-insulating gallium arsenide substrate capacity in order to scale with increasing demand. As we enter 2010, we are seeing increasing demand for all sizes of our GaAs substrates and are reviewing our GaAs substrate capacity in order to make appropriate adjustments. In 2010 we expect to build out our remaining 30,000 sq ft production space in Beijing. We will also begin designing a new manufacturing building for future expansions.

In 2009, we experienced a noticeable increase in demand for our Ge substrates due to improving economic conditions as well as new customer qualifications. As a result, we increased our Ge substrate



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capacity in the fourth quarter of 2009 and will closely follow future demand increases and adjust our production capacity accordingly.

*Establish leadership in emerging substrate applications.* We intend to expand our served markets by exploring new opportunities for our substrates and we continue to work with our customers to enhance our substrate product offering. For example in collaboration with a major satellite solar cell customer, we found that our VGF-grown Ge substrates had better surface quality and stronger mechanical strength than our competitor's Czochralski-grown Ge substrate. Better material quality can translate to better device performance and/or better yield for our customers. We are also working on the development of a 6" Ge substrate because the larger usable area in a 6-inch wafer over a 4-inch wafer will substantially reduce the cost of Ge solar cell manufacturing, which is essential for commercial adoption of Ge solar cell technology for terrestrial applications.

*Technology enhancements.* We continue to focus on technology development in the areas of VGF technology enhancement. We are working to increase the VGF ingot length and improve our single crystal yield rate. We also continue to improve our wafer processing technologies to give us better yield, lower production costs and better quality and performance for our customers.

**Technology**

There are basically three technologies for crystal growth in our business: Vertical Gradient Freeze (VGF), Liquid Encapsulated Czochralski (LEC), and Czochralski (CZ). Our core technologies include our proprietary VGF technique used to produce high quality crystals that are processed into compound substrates, and the technologies of our joint venture companies, which enable us to manufacture a range of products that are used in the manufacture of compound semiconductor substrates or can be sold as raw materials to third parties.

Our VGF technique is designed to control the crystal-growth process with minimal temperature variation and is the current technique we use to produce our GaAs, InP and Ge substrates. Unlike traditional techniques, our VGF technique places the hot compound melt above the cool crystal, and minimizes the temperature gradient between the crystal and the melt which reduces the turbulence at the interface of the melt and the solid crystal. In comparison, in the LEC technique the melt and crystal are inverted, there is a higher temperature gradient between the melt and the crystal, and more turbulence at the interface of the melt and solid crystal. These aspects of the VGF technique enable us to grow crystals that have a relatively low defect density and high uniformity. The crystal and the

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resulting substrate are mechanically strong, resulting in lower breakage rates during a customer's manufacturing process. Since the temperature gradient is controlled electronically rather than by physical movement, the sensitive crystal is not disturbed as it may be during some competitors' VGF-like growth processes. In addition, the melt and growing crystal are contained in a closed chamber, which isolates the crystal from the outside environment to reduce potential contamination. This substrate isolation allows for more precise control of the gallium-to-arsenic ratio, resulting in better consistency and uniformity of the crystals.

Although we are exploring the use of other methods to control the crystal-growth process, including the CZ and LEC methods for select applications, for our traditional GaAs substrates, our VGF technique offers several benefits for producing our GaAs substrates when compared to traditional crystal growing technologies. The Horizontal Bridgman (HB) technique is the traditional method for producing semi-conducting GaAs substrates for opto-electronic applications, but because of the techniques used to hold the GaAs melt, the HB technique cannot be used cost-effectively to produce substrates greater than three inches in diameter. In addition, the HB technique houses the GaAs melt in a quartz container during the growth process, which can contaminate the GaAs melt with silicon impurities, making it unsuitable for producing semi-insulating GaAs substrates.

Our VGF technique also offers advantages over the LEC technique for producing semi-insulating GaAs substrates for wireless applications. Unlike the VGF technique, the LEC technique can result in greater turbulence in the melt, and at a temperature gradient that is significantly higher than the VGF technique, which can cause LEC-grown crystals to have a higher dislocation density than VGF-grown crystals, resulting in a higher rate of breakage during the device manufacturing process. However, the LEC technique can be useful for GaAs semi-conducting substrates since the LED application specifications and requirements are less stringent than those of wireless applications.

**Products**

We design, develop, manufacture and distribute high-performance semiconductor substrates. We make semi-insulating GaAs substrates used in applications such as amplifiers and switches for wireless devices, and semi-conducting GaAs substrates used to create opto-electronic products including HBLEDs, which are often used to backlight wireless handsets and LCD TVs and for automotive and general illumination applications. InP is a high performance semiconductor substrate used in broadband and fiber optic applications. Ge substrates are used in emerging applications such as triple junction solar cells for space and terrestrial photovoltaic applications and for optical applications.

The table below sets forth our products and selected applications:

Product	Applications	
	Electronic	Opto-electronic
GaAs	Cellular phones	LEDs
	Direct broadcast television	Lasers
	High-performance transistors	Optical couplers
	Satellite communications	
InP	Fiber optic communications	Lasers
	Satellite communications	
	High-performance transistors	
	Automotive collision avoidance radar	
Ge	Satellite and terrestrial solar cells	Optical applications

*Substrates.* We currently sell compound substrates manufactured from GaAs and InP, as well as single-element substrates manufactured from Ge. We supply GaAs substrates in two-, three-, four-, five-

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and six-inch diameters. We manufacture InP substrates in two-, three-and four-inch diameters, and Ge substrates in two- and four-inch diameters.

*Materials.* We participate in five joint ventures in China that sell raw materials used by us in substrate manufacturing and by others. These joint ventures produce products including 99.99% pure gallium (4N Ga), high purity gallium, arsenic, and germanium, germanium dioxide, paralytic boron nitride (pBN) crucibles, and boron oxide (B<sub>2</sub>O<sub>3</sub>). In 2009 and 2008, sales of raw materials by these joint ventures to third parties were approximately \$6.4 million and \$17.2 million, respectively.

The primary costs of manufacturing compound semiconductor substrates are labor, raw materials and manufacturing equipment such as crystal growing furnaces. Accordingly, substrate manufacturers, including AXT, are continuing to shift production to larger wafers to reduce manufacturing costs.

## **Customers**

We sell our compound semiconductor substrates and materials worldwide. Our top revenue producing customers in 2009 by revenue were:

Arima Optoelectronics Corporation	IQE Group	Sumitomo Chemical Co., Ltd.
Avago Technologies Manufacturing (Singapore) Pte. Ltd.	Osram Opto Semiconductors GmbH	Visual Photonics Epitaxy Co., Ltd.
AZUR Space Solar Power GmbH	Picogiga International SAS	WIN Semiconductors Corporation
Beijing Compound Crystal Technology, Ltd.	Recapture Metals Limited	Xiamen Changelight Co., Ltd.
Hitachi Cable, Ltd.	Sumika Electronic Materials Co., Ltd.	Xiamen Sanan Optoelectronics Co., Ltd.

Historically, we have sold a significant portion of our products in any particular period to a limited number of customers. IQE Group (IQE, Inc., IQE RF, LLC, IQE (Europe) Limited, MBE Technology Pte. Ltd.) represented 15% of our revenue for the year ended December 31, 2009. One customer represented greater than 10% of revenue for the year ended December 31, 2008, at 19%, and only one customer represented greater than 10% of revenue for the year ended December 31, 2007 at 12%. Our top five customers represented 41% of our revenue for the year ended December 31, 2009, 46% of our revenue for the year ended December 31, 2008, and 40% of our revenue for the year ended December 31, 2007. We expect that sales to a small number of customers will continue to comprise a significant portion of our revenue in the future.

There were three third party customers for our raw materials that accounted for greater than 10% of revenue from raw materials sales at 18%, 13% and 11% for the year ended December 31, 2009, and two third party customers for our raw materials that accounted for greater than 10% of revenue from raw materials sales at 28% and 16% for the year ended December 31, 2008 and three third party customers for our raw materials that accounted for greater than 10% of revenue from raw materials sales at 22%, 14% and 13% for the year ended December 31, 2007. Our joint ventures are a key strategic benefit for us as they give us a strong competitive advantage of allowing our customers to work with one supplier for all their substrate and raw material requirements. Our raw materials customers include chemical companies; additionally, we sell raw materials to some of our competitors of our substrate business.

## **Manufacturing, Raw Materials and Supplies**

We believe that our operating results reflect our manufacturing efficiency and high product yields and we continually emphasize quality and process control throughout our manufacturing operations. We manufacture all of our products at our facilities in Beijing, China, which generally has favorable costs for facilities and labor compared to manufacturing in the United States. We believe that our capital

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investment and subsequent operating costs are lower for our manufacturing facilities in China relative to the U.S. Although some of our manufacturing operations are fully automated and computer monitored or controlled, enhancing reliability and yield, we expect to continue to improve our processes and increase the number of automated processes in 2010. We use proprietary equipment in our substrate manufacturing operations to protect our intellectual property and control the timing and pace of capacity additions. All of our manufacturing facilities are ISO 9001 or 9002 certified. In January 2006, our Beijing facility successfully passed the ISO 14001 certification audit.

We have five joint ventures in China that provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our manufactured products including gallium, arsenic, germanium, germanium dioxide, pyrolitic boron nitride crucibles, and boron oxide. We believe that these joint ventures and investments will be advantageous in procuring materials to support our growth and cost management goals. In addition, we purchase supply parts, components and raw materials from several other domestic and international suppliers. We depend on a single or limited number of suppliers for certain critical materials used in the production of our substrates, such as quartz tubing, and polishing solutions. We generally purchase these materials through standard purchase orders and not pursuant to long-term supply contracts. Although we seek to maintain sufficient inventory levels of certain materials to guard against interruptions in supply and to meet our near term needs, and have to date been able to obtain sufficient supplies of materials in a timely manner in the future we may experience shortages of certain key materials, such as gallium.

Our five joint ventures include three companies that are included in our consolidated financial statements as consolidated entities: Beijing JiYa Semiconductor Material Co., Ltd. (JiYa), Nanjing Jin Mei Gallium Co., Ltd. (Jin Mei), and Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd (BoYu). Our ownership in JiYa is 46%. We continue to consolidate JiYa as we have significant influence in management and have a majority control of the board. Our chief executive officer is chairman of the board, while our vice president of production, our China vice president of administration and our president of AXT China operations are also members of the board. Our ownership of Jin Mei is 83%. We continue to consolidate Jin Mei as we have significant influence in management and have a majority control of the board. Our chief executive officer is chairman of the board, while our China vice president of administration and our president of AXT China operations are also members of the board. We have significant influence over management of BoYu, have a controlling financial interest of 70%, and have a majority control of the board. Our chief executive officer is chairman of the board, while our China vice president of administration and our president of AXT China operations are also members of the board.

Although we have representation on the boards of directors of each of these companies, the daily operations of each of these companies are managed by local management and not by us. Decisions concerning their respective short term strategy and operations, any capacity expansion and annual capital expenditures, and decisions concerning sales of finished product, are made by local management without input from us.

JiYa is housed in and receives services from an affiliated aluminum plant and has in the past had to source finished products from another independent third party supplier in order to meet customer supply obligations when operations of its affiliated aluminum plant have been suspended or curtailed, resulting in a loss of supplies to the joint venture. In addition, even when capacity has been fully utilized, JiYa has had to source finished products from an independent third party supplier when demand has exceeded the joint venture's capacity, and will continue to source finished products from this independent third party supplier if it experiences supply shortages or if customer demand again exceeds its capacity.

The investment balances for the other two joint ventures are accounted for under the equity method are included in other assets in the consolidated balance sheets and totaled \$4.2 million and

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\$3.7 million as of December 31, 2009 and 2008, respectively. We own 25% of the ownership interests in each of these companies.

**Sales and Marketing**

We advertise in trade publications, distribute promotional materials, conduct marketing and sales programs, and participate in industry trade shows and conferences in order to raise market awareness of our products.

We sell our substrate products directly to customers through our direct sales force in the U.S. and through independent sales representatives in France, Germany, Japan, South Korea, Taiwan and the United Kingdom. Our direct sales force is knowledgeable in the use of compound and single-element substrates. Our applications engineers work with customers during all stages of the substrate manufacturing process, from developing the precise composition of the substrate through manufacturing and processing the substrate to the customer's specifications. We believe that maintaining a close relationship with customers and providing them with ongoing engineering support improves customer satisfaction and will provide us with a competitive advantage in selling other substrates to our customers.

*International Sales.* International sales are an important part of our business. Sales to customers outside North America (primarily United States) accounted for 81% of our revenue in 2009, 74% of our revenue in 2008, and 80% of our revenue in 2007. The primary markets for sales of our substrate products outside of the United States are to customers located in Asia and Western Europe.

We also sell through our joint ventures raw materials including 4N, 6N, and 7N gallium, boron oxide, germanium, arsenic, germanium dioxide, paralytic boron nitride crucibles used in crystal growth and parts for MBE (Molecular Beam Epitaxy). Our joint ventures are a key strategic benefit for us as they give us a strong competitive advantage of allowing our customers to work with one supplier for all their substrate and raw material requirements. Our joint ventures have their own separate sale forces where they also sell direct to their own customers in addition to their supply of raw materials to us.

**Research and Development**

To maintain and improve our competitive position, we focus our research and development efforts on designing new proprietary processes and products, improving the performance of existing products and reducing manufacturing costs. We have assembled a multi-disciplinary team of skilled scientists, engineers and technicians to meet our research and development objectives.

Our current substrate research and development activities focus on continued development and enhancement of GaAs, InP and Ge substrates, including haze reduction, improved yield, enhanced surface and electrical characteristics and uniformity, greater substrate strength and increased crystal length. During 2008 and 2009, we continued to focus research and development resources to reduce surface quality problems we experienced with our GaAs and InP substrates for some customers, particularly related to surface morphology. We continue to work on issues related to surface quality, and expect that research and development in this area will continue in 2010.

Research and development expenses were \$1.6 million in 2009, compared with \$2.2 million in 2008 and \$1.7 million in 2007. We expect our rate of expenditure on research and development costs in 2010 to increase as we continue to improve on processes and also develop 6" Ge wafers. Research and development at our joint ventures has been minimal.

**Competition**

The semiconductor substrate industry is characterized by rapid technological change and price erosion, as well as intense foreign and domestic competition. We believe we currently have a leading

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position in the market for GaAs substrates for HBLED applications primarily as a result of our expertise in VGF technology, overall product quality, response times and prices. However, we face actual and potential competition from a number of established domestic and international companies who may have advantages not available to us including substantially greater financial, technical and marketing resources; greater name recognition; and more established relationships in the industry and may utilize these advantages to expand their product offerings more quickly, adapt to new or emerging technologies and changes in customer requirements more quickly, and devote greater resources to the marketing and sale of their products.

We believe that the primary competitive factors in the markets in which our substrate products compete are:

quality;

price;

performance;

meeting customer specifications; and

customer support and satisfaction.

Our ability to compete in target markets also depends on factors such as:

the timing and success of the development and introduction of new products and product features by us and our competitors;

the availability of adequate sources of raw materials;

protection of our products by effective use of intellectual property laws; and

general economic conditions.

A compound semiconductor substrate customer typically has two or three substrates suppliers that it has qualified for the production of its products. These qualified suppliers must meet industry-standard specifications for quality, on-time delivery and customer support. Once a substrate supplier has qualified with a customer, price, consistent quality and current and future product delivery lead times become the most important competitive factors. A supplier that cannot meet customers' current lead times or that a customer perceives will not be able to meet future demand and provide consistent quality can lose current market share. Our primary competition in the market for compound semiconductor substrates includes China Crystal Technologies, Freiburger Compound Materials, Japan Energy, Mitsubishi Chemical Corporation, and Sumitomo Electric Industries. We believe that at least two of our competitors are shipping high volumes of GaAs substrates manufactured using a technique similar to our VGF technique. In addition, as a result of quality problems that we have experienced, we believe that some customers have allocated some of their requirements for VGF grown substrates across more competitors and we believe that we may have lost revenue and market share as a result of these customer decisions. In addition, we also face competition from compound semiconductor device manufacturers that produce substrates for their own internal use, including Hitachi, and from companies such as IBM that are actively developing alternative compound semiconductor materials.

We are the only compound semiconductor substrate supplier to offer a full suite of raw materials and we believe that it gives us a strong competitive advantage in our marketplace.

**Protection of our Intellectual Property**

Our success and the competitive position of our VGF technique depend on our ability to maintain trade secrets and other intellectual property protections. We rely on a combination of patents, trademark and trade secret laws, non-disclosure agreements and other intellectual property protection

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methods to protect our proprietary technology. We believe that, due to the rapid pace of technological innovation in the markets for our products, our ability to establish and maintain a position of technology leadership depends as much on the skills of our development personnel as upon the legal protections afforded our existing technologies. To protect our trade secrets, we take certain measures to ensure their secrecy, such as executing non-disclosure agreements with our employees, customers and suppliers. However, reliance on trade secrets is only an effective business practice insofar as trade secrets remain undisclosed and a proprietary product or process is not reverse engineered or independently developed.

To date, we have been issued six patents that relate to our VGF products and processes, three (3) in the U.S., two (2) in Japan and one (1) in China, which expire in 2016 (1st U.S.), 2017 (1st JP), 2018 (CN), 2021 (2nd JP), 2022 (2nd U.S.), 2027 (3rd U.S.). We have eight (8) U.S. patent applications pending and nineteen (19) foreign patent applications pending (including applications in Patent Cooperation Treaty ("PCT") and national stage processes) in Europe, Canada, China, Japan and South Korea, which are based on our US patents and/or pertain to our VGF-related wafer manufacturing processes.

In the normal course of business, we periodically receive and make inquiries regarding possible patent infringement. In dealing with such inquiries, it may become necessary or useful for us to obtain or grant licenses or other rights. However, there can be no assurance that such licenses or rights will be available to us on commercially reasonable terms. If we are not able to resolve or settle claims, obtain necessary licenses on commercially reasonable terms and/or successfully prosecute or defend our position, our business, financial condition and results of operations could be materially and adversely affected.

#### **Environmental Regulations**

We are subject to federal, state and local environmental laws and regulations, including laws in China as well as the U.S. These laws, rules and regulations govern the use, storage, discharge and disposal of hazardous chemicals during manufacturing, research and development and sales demonstrations. We maintain a number of environmental, health and safety programs that are primarily preventive in nature. As part of these programs, we regularly monitor ongoing compliance. If we fail to comply with applicable regulations, we could be subject to substantial liability for clean-up efforts, personal injury and fines or suspension or cessation of our operations.

#### **Employees**

As of December 31, 2009, we had 1,091 employees, of whom 867 were principally engaged in manufacturing, 131 in sales and administration, and 93 in research and development. Of these employees, 28 were located in the U.S., and 1,063 in China. As of December 31, 2008, we had 1,120 employees including employees of our consolidated joint ventures, of whom 902 were principally engaged in manufacturing, 125 in sales and administration, and 93 in research and development. Of these employees, 39 are located in the U.S., and 1,081 in China.

Some of our employees in China are represented by a union, but we have never experienced a work stoppage. We consider our relations with our employees to be good.

#### **Geographical Information**

Please see Note 14 of our Notes to Consolidated Financial Statements for information regarding our foreign operations, and see "Risks related to international aspects of our business" under Item 1A. Risk Factors for further information on risks attendant to our foreign operations and dependence.



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**Available Information**

Our principal executive offices are located at 4281 Technology Drive, Fremont, CA 94538, and our main telephone number at this address is (510) 683-5900. The public may read and copy any material we file with the Securities and Exchange Commission, or SEC, at the SEC's Public Reference Room at 100 F Street, N.E., Washington D.C., 20549. The public may obtain information on the operations of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

Our web site is [www.axt.com](http://www.axt.com). We make available, free of charge, on or through our web site, our annual, quarterly and current reports, and any amendments to those reports as soon as reasonably practicable after those reports are filed with the SEC. The information on our web site does not constitute a part of this Annual Report on Form 10-K and is not incorporated herein.

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**Item 1A. Risk Factors**

For ease of reference, we have divided these risks and uncertainties into the following general categories:

Risks related to our general business;

Risks related to international aspects of our business;

Risks related to our financial results and capital structure;

Risks related to our intellectual property; and

Risks related to compliance and other legal matters.

**Risks Related to Our General Business**

*Current global economic conditions may have an impact on our business and financial condition in ways that we currently cannot predict.*

Our operations and financial results depend on worldwide economic conditions and their impact on levels of business spending, which have deteriorated significantly in many countries and regions and may remain depressed for the foreseeable future. Uncertainties in the financial and credit markets have caused our customers to postpone deliveries of ordered systems and placement of new orders. Continued uncertainties may reduce future sales of our products and services. The revenue growth and profitability of our business depends on the overall demand for our substrates, and we are particularly dependent on the market conditions for the wireless, solid-state illumination, fiber optics and telecommunications industries. Because our sales are primarily to major corporate customers whose businesses fluctuate with general economic and business conditions, a softening of demand for products that use our substrates, caused by a weakening economy, may result in decreased revenue. Customers may find themselves facing excess inventory from earlier purchases, and may defer or reconsider purchasing products due to the downturn in their business and in the general economy. If the current market conditions continue to deteriorate, we may experience increased collection times and greater write-offs, either of which could have a material adverse effect on our cash flow.

In addition, the tightening of credit markets and concerns regarding the availability of credit may make it more difficult for our customers to raise capital, whether debt or equity, to finance their purchases of capital equipment, including the products we sell. Delays in our customers' ability to obtain such financing, or the unavailability of such financing, would adversely affect our product sales and revenues and therefore harm our business and operating results. We cannot predict the timing, duration of or effect on our business of the economic slowdown or the timing or strength of a subsequent recovery.

*Ongoing financial market volatility and adverse changes in the domestic and global economic environment could have a significant adverse impact on our business, financial condition and operating results.*

Our business and operating results have been significantly impacted by general economic conditions in 2008 and 2009, and we could experience significant adverse effects if there is any further decline in worldwide markets and overall economic difficulties. The U.S. and global economy has experienced a significant downturn due to the effects of the credit market crisis, slower economic activity and a generally negative economic outlook, a decrease in consumer and business confidence and liquidity concerns. Global market and economic conditions continue to be volatile. The possible duration and severity of this adverse economic cycle is unknown. Although the Company remains well-capitalized and has not suffered any liquidity issues as a result of these recent events, the cost and availability of funds may be adversely affected by illiquid credit markets. Continued turbulence in U.S. and international markets and economies may adversely affect the Company's liquidity, financial

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condition and profitability. Another severe or prolonged economic downturn could result in a variety of risks to our business, including:

increased volatility in our stock price;

increased volatility in foreign currency exchange rates;

delays in, or curtailment of, purchasing decisions by our customers or potential customers either as a result of overall economic uncertainty or as a result of their inability to access the liquidity necessary to engage in purchasing initiatives;

increased credit risk associated with our customers or potential customers, particularly those that may operate in industries most affected by the economic downturn, such as financial services; and

impairment of our intangible or other assets.

We have experienced and expect to continue to experience delays in customer purchasing decisions or disruptions in normal volume of customer orders that we believe are in part due to the uncertainties in the global economy and an adverse impact on consumer spending. To the extent that the current economic downturn worsens or persists, or any of the above risks occur, our business and operating results could be significantly and adversely affected.

***The average selling prices of our products may decline over relatively short periods, which may reduce our gross margins.***

The market for our products is characterized by declining average selling prices resulting from factors such as increased competition, overcapacity, the introduction of new products and decreased sales of products incorporating our products and average selling prices for our products may decline over relatively short time periods. We have in the past experienced, and in the future may experience, substantial period-to-period fluctuations in operating results due to declining average selling prices. On average, we have experienced average selling price declines over the course of the last twelve months of anywhere from approximately 5 to 20% per year depending on the product. It is also possible for the pace of average selling price declines to accelerate beyond these levels for certain products in a commoditizing market. We anticipate that average selling prices will decrease in the future in response to the current difficult economic environment, product introductions by competitors or us, or by other factors, including pricing pressures from significant customers. When our average selling prices decline, our gross profits decline unless we are able to sell more products or reduce the cost to manufacture our products. We generally attempt to combat average selling price declines by improving yields, manufacturing efficiency and working to reduce the costs of our raw materials and of manufacturing our products. We have in the past and may in the future experience declining sales prices, which could negatively impact our revenues, gross profits and financial results. We therefore need to sell our current products in increasing volumes to offset any decline in their average selling prices, and introduce new products, which we may not be able to do, or do on a timely basis.

We may be unable to reduce the cost of our products sufficiently to enable us to compete with others. Our cost reduction efforts may not allow us to keep pace with competitive pricing pressures and could adversely affect our margins. In order to remain competitive, we must continually reduce the cost of manufacturing our products through design and engineering changes. We cannot assure you that any changes effected by us will result in sufficient cost reductions to allow us to reduce the price of our products to remain competitive or improve our gross margins.

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***Shifts in our product mix may result in declines in gross margins.***

Our gross profit margins vary among our product families, and are generally higher on our larger diameter wafers. In addition, historically our gross margins have been higher on our raw materials sales. Accordingly, our overall gross margins have fluctuated from period to period as a result of shifts in product mix, the introduction of new products, decreases in average selling prices for products and our ability to reduce product costs, and these fluctuations are expected to continue in the future.

We do not control the prices at which our joint venture companies sell their raw materials products to other third parties. However, as we consolidate the results of three of these companies with our own, any reduction in their gross margins could have a significant, adverse impact on our overall gross margins. One or more of our joint venture companies has in the past and may in the future sell raw materials at significantly reduced prices in order to gain volume sales, or sales to new customers. In such an event, our gross margin may be adversely impacted. In addition, one of our joint venture companies has in the past been subject to capacity constraints requiring it to source product from other third party suppliers in order to meet customer demand, resulting in decreased gross margin and adversely impacting our gross margin. This joint venture may in the future continue to experience such capacity restraints, causing our gross margin, and consequently our operating results, to be adversely impacted.

***The cyclical nature of the semiconductor industry may limit our ability to maintain or increase net sales and operating results during industry downturns.***

The semiconductor industry is highly cyclical and periodically experiences significant economic downturns characterized by diminished product demand, resulting in production overcapacity and excess inventory in the markets we serve. A downturn can result in lower unit volumes and rapid erosion of average selling prices. The semiconductor industry has experienced significant downturns, often in connection with, or in anticipation of, maturing product cycles of both semiconductor companies' and their customers' products or a decline in general economic conditions. We have experienced these conditions in our business in the past, including most recently in 2009, and may experience renewed, and possibly more severe and prolonged, downturns in the future as a result of such cyclical changes. This may reduce our results of operations and the value of our business.

Our continuing business depends in significant part upon manufacturers of electronic and opto-electronic compound semiconductor devices, as well as the current and anticipated market demand for these devices and products using these devices. As a supplier to the compound semiconductor industry, we are subject to the business cycles that characterize the industry. The timing, length and volatility of these cycles are difficult to predict. The compound semiconductor industry has historically been cyclical because of sudden changes in demand, the amount of manufacturing capacity and changes in the technology employed in compound semiconductors. The rate of changes in demand, including end demand, is high, and the effect of these changes upon us occurs quickly, exacerbating the volatility of these cycles. These changes have affected the timing and amounts of customers' purchases and investments in new technology. These industry cycles create pressure on our revenue, gross margin and net income (loss).

The industry has in the past experienced periods of oversupply that result in significantly reduced demand and prices for compound semiconductor devices and components, including our products, both as a result of general economic changes and overcapacity. When these periods occur and our operating results and financial condition are adversely affected, oversupply creates pressure on our revenue, gross margins and net income (loss). Inventory buildups in telecommunications products and slower than expected sales of computer equipment resulted in overcapacity and led to reduced sales by our customers, and therefore reduced purchases of our products. During periods of weak demand such as those experienced historically, customers typically reduce purchases, delay delivery of products and/or

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cancel orders of component parts such as our products. Increased price competition has resulted, causing pressure on our net sales, gross margin and net income (loss). We experienced cancellations, price reductions, delays and push-outs of orders, which have resulted in reduced revenue. If the economic downturn continues, further order cancellations, reductions in order size or delays in orders could occur and would materially adversely affect our business and results of operations. Actions to reduce our costs, such as those we have recently taken, may be insufficient to align our structure with prevailing business conditions. We may be required to undertake additional cost-cutting measures, and may be unable to invest in marketing, research and development and engineering at the levels we believe are necessary to maintain our competitive position. Our failure to make these investments could seriously harm our business.

We base our planned operating expenses in part on our expectations of future revenue, and a significant portion of our expenses is relatively fixed in the short term. If revenue for a particular quarter is lower than we expect, we likely will be unable to proportionately reduce our operating expenses for that quarter, which would harm our operating results for that quarter.

***We depend on high utilization of our manufacturing capacity.***

An important factor in our success is the extent to which we are able to utilize the available capacity in our Beijing facility. As many of our costs are fixed, a reduction in capacity utilization, as well as changes in other factors such as reduced yield or unfavorable product mix, could reduce our profit margins and adversely affect our operating results. A number of factors and circumstances may reduce utilization rates, including periods of industry overcapacity, low levels of customer orders, operating inefficiencies, mechanical failures and disruption of operations due to expansion, power interruptions, fire, flood or other natural disasters or calamities.

***The Chinese Government has previously imposed manufacturing restrictions that, if imposed again in the future on our facilities, could materially and adversely impact our results of operations and our financial condition.***

The Chinese government has in the past imposed restrictions on manufacturing facilities, such as the restrictions imposed on polluting factories for the 2008 Olympics and Paralympics, including a shut down of material transportation and power plants to clean the air. If, in the future, restrictions are imposed on our operations, our ability to meet customer demand or supply current or new orders would be significantly impacted. Customers could then be required to purchase product from our competitors, causing our competitors to take market share from us, and could result in our customers supplying future needs from our competitors. Restrictions on material transport could limit our ability to transport our product, and could result in bottlenecks at shipping ports, limiting our ability to deliver products to our customers. During periods of such restrictions, we may increase our stock of critical materials (such as arsenic, gallium, and other chemicals) for use during the period that these restrictions are likely to last, which will increase our use of cash and increase in inventory level, such as occurred during 2008. Any of these restrictions could materially and adversely impact our results of operations and our financial condition.

***Defects in our products could diminish demand for our products.***

Our products are complex and may contain defects. We have experienced quality control problems with many of our products, which caused customers to return products to us, reduce orders for our products, or both. Although our quality has improved, resulting in some increases in product sales, we believe that we continue to experience some reduction in orders as a result of our prior product quality problems. If we continue to experience quality control problems, or experience these or other problems in new products, customers may cancel or reduce orders or purchase products from our competitors, we may be unable to maintain or increase sales to our customers and sales of our products could

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decline. Defects in our products could cause us to incur higher manufacturing costs and suffer product returns and additional service expenses, all of which could adversely impact our operating results.

If new products developed by us contain defects when released, our customers may be dissatisfied and we may suffer negative publicity or customer claims against us, lose sales or experience delays in market acceptance of our new products.

***The loss of one or more of our key substrate customers would significantly hurt our operating results.***

A small number of substrate customers have historically accounted for a substantial portion of our total revenue. Our top five customers represented 41% of revenue for the year ended December 31, 2009, 46% of revenue for the year ended December 31, 2008, and 40% of revenue for the year ended December 31, 2007. We expect that a significant portion of our future revenue will continue to be derived from a limited number of substrate customers. Most of our customers are not obligated to purchase a specified quantity of our products or to provide us with binding forecasts of product purchases. In addition, our customers may reduce, delay or cancel orders at any time without any significant penalty. In the past, we have experienced slower bookings, significant push-outs and cancellation of orders from customers. If we lose a major customer or if a customer cancels, reduces or delays orders, our revenue would decline. In addition, customers that have accounted for significant revenue in the past may not continue to generate revenue for us in any future period. Any delay in scheduled shipments of our products could cause revenue to fall below our expectations and the expectations of market analysts or investors, causing our stock price to decline.

***Our results of operations may suffer if we do not effectively manage our inventory.***

We must manage our inventory of component parts, work-in-process and finished goods effectively to meet changing customer requirements, while keeping inventory costs down and improving gross margins. Some of our products and supplies have in the past and may in the future become obsolete while in inventory due to changing customer specifications, or become excess inventory due to decreased demand for our products and an inability to sell the inventory within a foreseeable period. Furthermore, if current costs of production increase or sales prices drop below the standard prices at which we value inventory, we may need to take a charge for a reduction in inventory values. We have in the past had to take inventory valuation and impairment charges. Any future unexpected changes in demand or increases in costs of production that cause us to take additional charges for un-saleable, obsolete or excess inventory, or to reduce inventory values, could adversely affect our results of operations.

***If we have low product yields, the shipment of our products may be delayed and our operating results may be adversely impacted.***

Our products are manufactured using complex technologies, and the number of usable substrates we produce can fluctuate as a result of many factors, including:

impurities in the materials used;

contamination of the manufacturing environment;

substrate breakage;

equipment failure, power outages or variations in the manufacturing process; and

performance of personnel involved in the manufacturing process.

If our yields decrease, our revenue could decline if we are unable to produce needed product on time. At the same time, our manufacturing costs could remain fixed, or could increase. We have experienced product shipment delays and difficulties in achieving acceptable yields on both new and



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older products, and delays and poor yields have adversely affected our operating results. We may experience similar problems in the future and we cannot predict when they may occur or their severity. In particular, many of our manufacturing processes are new and are still being refined, which can result in lower yields.

If our manufacturing processes result in defects in our products making them unfit for use by our customers, our products would be rejected, resulting in compensation costs paid to our customers, and possible disqualification. This could lead to revenue loss and market share loss.

***If we do not successfully develop new products to respond to rapidly changing customer requirements, our ability to generate revenue, obtain new customers, and retain existing customers may suffer.***

Our success depends on our ability to offer new products and product features that incorporate leading technology and respond to technological advances. In addition, our new products must meet customer needs and compete effectively on quality, price and performance. The life cycles of our products are difficult to predict because the markets for our products are characterized by rapid technological change, changing customer needs and evolving industry standards. If our competitors introduce products employing new technologies or performance characteristics, our existing products could become obsolete and unmarketable. During the past three years, we have seen our competitors selling more substrates manufactured using a crystal growth technology similar to ours, which has eroded our technological differentiation. Other companies, including TriQuint Semiconductors, are actively developing substrate materials that could be used to manufacture devices that could provide the same high-performance, low-power capabilities as GaAs- and InP-based devices at competitive prices. If these substrate materials or VGF-derived products are successfully developed and semiconductor device manufacturers adopt them, demand for our GaAs substrates could decline and our revenue could suffer.

The development of new products can be a highly complex process, and we may experience delays in developing and introducing new products. Any significant delays could cause us to fail to timely introduce and gain market acceptance of new products. Further, the costs involved in researching, developing and engineering new products could be greater than anticipated. If we fail to offer new products or product enhancements or fail to achieve higher quality products, we may not generate sufficient revenue to offset our development costs and other expenses or meet our customers' requirements.

***Intense competition in the markets for our products could prevent us from increasing revenue and sustaining profitability.***

The markets for our products are intensely competitive. We face competition for our substrate products from other manufacturers of substrates, such as Freiburger Compound Materials, Hitachi Cable and Sumitomo Electric, from semiconductor device manufacturers that produce substrates for their own use, and from companies, such as TriQuint Semiconductors, that are actively developing alternative materials to GaAs and marketing semiconductor devices using these alternative materials. We believe that at least two of our major competitors are shipping high volumes of GaAs substrates manufactured using a technique similar to our VGF technique. Other competitors may develop and begin using similar technology. If we are unable to compete effectively, our revenue may not increase and we may be unable to remain profitable on a quarterly basis. We face many competitors that have a number of significant advantages over us, including:

greater experience in the business;

more manufacturing experience;

extensive intellectual property;



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broader name recognition; and

significantly greater financial, technical and marketing resources.

Our competitors could develop new or enhanced products that are more effective than our products are.

The level and intensity of competition has increased over the past year and we expect competition to continue to increase in the future. Competitive pressures caused by the current economic conditions have resulted in reductions in the prices of our products, and continued or increased competition could reduce our market share, require us to further reduce the prices of our products, affect our ability to recover costs and result in reduced gross margins.

In addition, new competitors have and may continue to emerge, such as a small crystal growing company established by a former employee of ours in China that is supplying ingots to the market. While new competitors such as this company currently do not appear to be fully competitive, competition from sources such as this could increase, particularly if these competitors are able to obtain large capital investments.

***Demand for our products may decrease if our customers experience difficulty manufacturing, marketing or selling their products.***

Our products are used as components in our customers' products. Accordingly, demand for our products is subject to factors affecting the ability of our customers to introduce and market their products successfully, including:

the competition our customers face in their particular industries;

the technical, manufacturing, sales and marketing and management capabilities of our customers;

the financial and other resources of our customers; and

the inability of our customers to sell their products if they infringe third-party intellectual property rights.

If demand for the end-user applications for which our products are used decreases, or our customers are unable to develop, market and sell their products, demand for our products will decrease.

***The financial condition of our customers may affect their ability to pay amounts owed to us.***

Many of our customers are facing business downturns that have reduced their cash balances and their prospects. We frequently allow our customers extended payment terms after shipping products to them. Subsequent to our shipping a product, some customers have been unable to make payments when due, reducing our cash balances and causing us to incur charges to allow for a possibility that some accounts might not be paid. Customers may also be forced to file for bankruptcy. If our customers do not pay their accounts when due, we will be required to incur charges that would reduce our earnings.

***We purchase critical raw materials and parts for our equipment from single or limited sources, and could lose sales if these sources fail to fill our needs.***

We depend on a limited number of suppliers for certain raw materials, components and equipment used in manufacturing our products, including key materials such as quartz tubing, polishing solutions and paralytic boron nitride. Although several of these raw materials are purchased from suppliers in which we hold an ownership interest, we generally purchase these materials through standard purchase

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orders and not pursuant to long-term supply contracts and no supplier guarantees supply of raw materials or equipment to us. If we lose any of our key suppliers, our manufacturing efforts could be significantly hampered and we could be prevented from timely producing and delivering products to our customers. Prior to investing in our raw material joint ventures, we sometimes experienced delays obtaining critical raw materials and spare parts, including gallium, due to shortages of these materials and could experience such delays again in the future due to shortages of materials and may be unable to obtain an adequate supply of materials. These shortages and delays could result in higher materials costs and cause us to delay or reduce production of our products. If we have to delay or reduce production, we could fail to meet customer delivery schedules and our revenue and operating results could suffer.

***We have made and may continue to make strategic investments in raw materials suppliers, which may not be successful and may result in the loss of all or part of our investment.***

We have made investments through our five joint ventures in raw material suppliers in China, which provide us with opportunities to gain supplies of key raw materials that are important to our substrate business. These affiliates each have a market beyond that provided by us. We do not have influence over all of these companies, each of which is located in China, and in some we have made only a strategic, minority investment. We may not be successful in achieving the financial, technological or commercial advantage upon which any given investment is premised, and we could end up losing all or part of our investment.

***Our substrate products have a long qualification cycle that makes it difficult to plan our expenses and forecast our results.***

Customers typically place orders with us for our substrate products three months to a year or more after our initial contact with them. The sale of our products may be subject to delays due to our customers' lengthy internal budgeting, approval and evaluation processes. During this time, we may incur substantial expenses and expend sales, marketing and management efforts while the customers evaluate our products. These expenditures may not result in sales of our products. If we do not achieve anticipated sales in a period as expected, we may experience an unplanned shortfall in our revenue. As a result, we may not be able to cover expenses, causing our operating results to vary. In addition, if a customer decides not to incorporate our products into its initial design, we may not have another opportunity to sell products to this customer for many months or even years. In the current competitive and economic climate, the average sales cycle for our products has lengthened even further and is expected to continue to make it difficult to forecast our future sales accurately. We anticipate that sales of any future substrate products will also have lengthy sales cycles and will, therefore, be subject to risks substantially similar to those inherent in the lengthy sales cycles of our current substrate products.

***Problems incurred by our joint ventures or venture partners could result in a material adverse impact on our financial condition or results of operations.***

We have invested in five joint venture operations in China that produce products including 99.99% pure gallium (4N Ga), high purity gallium, arsenic, germanium, germanium dioxide, paralytic boron nitride (pBN) crucibles and boron oxide. We purchase a portion of the materials produced by these ventures for our use and sell the remainder of their production to third parties. Our ownership interest in these entities ranges from 25% to 83%. We consolidate the three joint ventures in which we own a majority or controlling financial interest and employ equity accounting for the two joint ventures in which we have a 25% interest. Several of these ventures occupy space within larger facilities owned and/or operated by one of the other venture partners. Several of these venture partners are engaged in other manufacturing activities at or near the same facility. In some facilities, we share access to certain functions, including water, hazardous waste treatment or air quality treatment. If any of our joint

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venture partners in any of these five ventures experiences problems with its operations, disruptions of our joint venture operations could result, having a material adverse effect on the financial condition and results of operation of our joint ventures, and correspondingly on our financial condition or results of operations. For example, during 2008, our gallium joint venture in China, which is housed in and receives services from an affiliated aluminum plant, ceased production for five weeks during the fourth quarter of 2008 as a result of supply shortage from the aluminum plant which had reduced production and halted operations due to dropping aluminum prices in the second half of 2008. Accordingly, in order to meet customer supply obligations, our joint venture had to source finished products from another independent third party supplier, resulting in low gross margin for the quarter. Our joint venture may in the future continue to experience shortages in supply from the aluminum plant, requiring it to again source finished products from a third party, adversely impacting our gross margins.

In addition, if any of our joint ventures or venture partners with which our joint ventures share facilities is deemed to have violated applicable laws, rules or regulations governing the use, storage, discharge or disposal of hazardous chemicals during manufacturing, research and development, or sales demonstrations, the operations of our joint ventures could be adversely affected and we could be subject to substantial liability for clean-up efforts, personal injury and fines or suspension or cessation of our joint venture operations as a result of the actions of the joint ventures or other venture partners. Employees working for our joint ventures or any of the other venture partners could bring litigation against us as a result of actions taken at the joint venture or venture partner facilities, even though we are not directly controlling the operations, including actions for exposure to chemicals or other hazardous materials at the facilities of our joint ventures or the facilities of any venture partner that are shared by our joint ventures. While we would expect to defend ourselves vigorously in any litigation that is brought against us, litigation is inherently uncertain and it is possible that our business, financial condition, results of operations or cash flows could be affected. Even if we are not deemed responsible for the actions of the joint ventures or venture partners, litigation could be costly, time consuming to defend and divert management attention; in addition, pursuit of us could occur if we are deemed to be the most financially viable of the partners.

Going forward, we believe that investing in additional joint ventures will be important to remaining competitive in our marketplace and ensuring a supply of critical raw materials. However, we may not be able to identify complementary joint venture opportunities or, even once opportunities are identified, we may not be able to reach agreement on the terms of the venture with the other venture partners. Additional joint ventures could cause us to incur contingent liabilities or other expenses, any of which could adversely affect our financial condition and operating results.

Since all of our joint venture activity is expected to occur in China, these activities could subject us to a number of risks associated with conducting operations internationally, including:

difficulties in managing geographically disparate operations;

difficulties in enforcing agreements through non-U.S. legal systems;

unexpected changes in regulatory requirements that may limit our ability to export the venture products or sell into particular jurisdictions or impose multiple conflicting tax laws and regulations;

political and economic instability, civil unrest or war;

terrorist activities that impact international commerce;

difficulties in protecting our intellectual property rights, particularly in countries where the laws and practices do not protect proprietary rights to as great an extent as do the laws and practices of the United States;

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changing laws and policies affecting economic liberalization, foreign investment, currency convertibility or exchange rates, taxation or employment; and

nationalization of foreign-owned assets, including intellectual property.

***The effect of terrorist threats and actions on the general economy could decrease our revenue.***

The United States continues to be on alert for terrorist activity. The potential near- and long-term impact terrorist activities may have in regards to our suppliers, customers and markets for our products and the U.S. economy is uncertain. There may be embargos of ports or products, or destruction of shipments or our facilities, or attacks that affect our personnel. There may be other potentially adverse effects on our operating results due to a significant event that we cannot foresee. Since we perform all of our manufacturing operations in China, and a significant portion of our customers are located outside of the United States, terrorist activity or threats against U.S.-owned enterprise are a particular concern to us.

***If any of our facilities is damaged by occurrences such as fire, explosion, or natural disaster, we might not be able to manufacture our products.***

The ongoing operation of our manufacturing and production facilities in China is critical to our ability to meet demand for our products. If we are not able to use all or a significant portion of our facilities for prolonged periods for any reason, we would not be able to manufacture products for our customers. For example, a fire or explosion caused by our use of combustible chemicals and high temperatures during our manufacturing processes could render some or all of our facilities inoperable for an indefinite period of time. Actions outside of our control, such as earthquakes or other natural disasters, could also damage our facilities, rendering them inoperable. If we are unable to operate our facilities and manufacture our products, we would lose customers and revenue and our business would be harmed.

**Risks Related to International Aspects of Our Business**

***Changes in tariffs, import restrictions, export restrictions or other trade barriers may reduce gross margins.***

We may incur increases in costs due to changes in tariffs, import or export restrictions, or other trade barriers, or unexpected changes in regulatory requirements, any of which could reduce our gross margins. For example, in 2006, tax authorities in the PRC changed the treatment of refunds of value-added taxes that companies pay when they purchase certain raw materials, including gallium and arsenic. The cumulative effect is that our PRC joint venture companies no longer receive a refund of value-added tax for exports of gallium or arsenic, including certain shipments to our wholly-owned PRC subsidiary that are treated as exports under PRC tax regulations. Given the relatively fluid regulatory environment in the PRC, there could be additional tax or other regulatory changes in the future. Any such changes could directly and materially adversely impact our financial results and general business condition.

***Our operating results depend in large part on continued customer acceptance of our substrate products manufactured in China and continued improvements in product quality.***

We manufacture all of our products in China, and source most of our raw materials in China. Accordingly, we continue to seek customer qualification of our China-manufactured products. In addition, we have in the past experienced quality problems with our China-manufactured products. Our previous quality problems caused us to lose market share to our competitors, as some customers reduced their orders from us until our surface quality was as good and consistent as that offered by competitors and customers allocated their requirements for compound semiconductor substrates across more competitors. We have continued to experience some issues relating to haze reduction. If we are

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unable to continue to achieve customer qualifications for our products, or if continue to experience quality problems, customers may not increase purchases of our products, our China facility will become underutilized, and we will be unable to achieve expected revenue growth. We may again lose sales of our products to competitors and experience loss of market share. If we are unable to recover and retain our market share, we may be unable to grow our business.

***We derive a significant portion of our revenue from international sales, and our ability to sustain and increase our international sales involves significant risks.***

Our revenue growth depends in part on the expansion of our international sales and operations. International sales represented 81%, 74% and 80% of our total revenue for the years ended December 31, 2009, 2008 and 2007, respectively. We expect that sales to customers outside the U.S., particularly sales to customers in Asia, will continue to represent a significant portion of our revenue.

Currently, an increasing percentage of our sales is to customers headquartered in Asia. All of our manufacturing facilities and some of our suppliers are also located outside the U.S. Managing our overseas operations presents challenges, including periodic regional economic downturns, trade balance issues, varying business conditions and demands, political instability, variations in enforcement of intellectual property and contract rights in different jurisdictions, differences in the ability to develop relationships with suppliers and other local businesses, changes in U.S. and international laws and regulations including U.S. export restrictions, fluctuations in interest and currency exchange rates, the ability to provide sufficient levels of technical support in different locations, cultural differences, shipping delays and terrorist acts or acts of war, among other risks. Many of these challenges are present in China, which represents a large potential market for semiconductor devices and where we anticipate significant opportunity for growth. Global uncertainties with respect to: (i) economic growth rates in various countries; (ii) sustainability of demand for electronics products; (iii) capital spending by semiconductor manufacturers; (iv) price weakness for certain semiconductor devices; and (v) political instability in regions where we have operations may also affect our business, financial condition and results of operations.

Our dependence on international sales involves a number of risks, including:

changes in tariffs, import restrictions, export restrictions, or other trade barriers;

unexpected changes in regulatory requirements;

longer periods to collect accounts receivable;

changes in export license requirements;

political and economic instability;

unexpected changes in diplomatic and trade relationships; and

foreign exchange rate fluctuations.

Our sales are denominated in U.S. dollars, except for sales to our Japanese and some Taiwanese customers, which are denominated in Japanese yen. Thus, increases in the value of the U.S. dollar could increase the price of our products in non-U.S. markets and make our products more expensive than competitors' products in these markets.

Also, denominating some sales in Japanese yen subjects us to fluctuations in the exchange rates between the U.S. dollar and the Japanese yen. The functional currency of our Chinese subsidiary and joint ventures is the local currency. We incur transaction gains or losses resulting from consolidation of expenses incurred in local currencies for these entities, as well as in translation of the assets and liabilities of their assets at each balance sheet date. If we do not effectively manage the risks associated with international sales, our revenue, cash flows and financial

condition could be adversely affected.

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***If there are power shortages in the PRC, we may have to temporarily close our China operations, which would adversely impact our ability to manufacture our products and meet customer orders, and would result in reduced revenue.***

In the past, the Chinese government has faced a power shortage resulting in power demand outstripping supply in peak periods. Instability in electrical supply in past years has caused sporadic outages among residential and commercial consumers causing the Chinese government to implement tough measures to ease the energy shortage, and as a result, we closed most of our operations for a week in late July 2004 in conformance with this policy.

In 2006 we were able to switch the electrical supply for our manufacturing facility onto the same power grid as that used by vital PRC government services such as hospitals and police. However, if even despite this switch, further problems with power shortages occur in the future, and we are required to make temporary closures of our subsidiary and joint venture operations, we may be unable to manufacture our products, and would then be unable to meet customer orders except from inventory on hand. As a result, our revenue could be adversely impacted, and our relationships with our customers could suffer, impacting our ability to generate future revenue. In addition, if power is shut off at our Beijing subsidiary at any time, either voluntarily or as a result of unplanned brownouts, during certain phases of our manufacturing process including our crystal growth phase, the work in process may be ruined and rendered unusable, causing us to incur expense that will not be covered by revenue, and negatively impacting our cost of revenue and gross margins.

***Changes in China's political, social and economic environment may affect our financial performance.***

Our financial performance may be affected by changes in China's political, social and economic environment. The role of the Chinese central and local governments in the Chinese economy is significant. Chinese policies toward economic liberalization, and laws and policies affecting technology companies, foreign investment, currency exchange rates and other matters could change, resulting in greater restrictions on our ability to do business and operate our manufacturing facilities in China. Any imposition of surcharges or any increase in Chinese tax rates or reduction or elimination of Chinese tax benefits could hurt our operating results. The Chinese government could revoke, terminate or suspend our license for national security and similar reasons without compensation to us. If the government of China were to take any of these actions, we would be prevented from conducting all or part of our business. Any failure on our part to comply with governmental regulations could result in the loss of our ability to manufacture our products in China.

***An outbreak of contagious disease such as Severe Acute Respiratory Syndrome (SARS) or the Avian Flu may adversely impact our manufacturing operations and some of our key suppliers and customers.***

Any reoccurrence of SARS or an outbreak of a contagious disease, such as Avian Flu may cause us to temporarily close our manufacturing operations. Similarly, if one of our key suppliers is required to close for an extended period, we might not have enough raw material inventory to continue manufacturing operations. In addition, while we possess management skills among our China staff that enable us to maintain our manufacturing operations with minimal on-site supervision from our U.S.-based staff, our business could also be harmed if travel to or from Asia and the United States is restricted or inadvisable. None of our substrate competitors is as dependent on manufacturing facilities in China as we are. If our manufacturing operations were closed for a significant period, we could lose revenue and market share during that period, which would depress our financial performance and could be difficult to recapture. Finally, if one of our key customers is required to close for an extended period, we might not be able to ship product to them, our revenue would decline and our financial performance would suffer.

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**Risks Related to Our Financial Results and Capital Structure**

***Our common stock may be delisted from The Nasdaq Global Market, which could negatively impact the price of our common stock and our ability to access the capital markets.***

Our common stock is listed on The Nasdaq Global Market. The bid price of our common stock has recently closed below the \$1.00 minimum per share bid price required for continued inclusion on The Nasdaq Global Market under Marketplace Rule 5450(a). If the bid price of our common stock remains below \$1.00 per share for thirty consecutive business days, we could be subject to delisting from the Nasdaq Global Market.

Any delisting from The Nasdaq Global Market could have an adverse effect on our business and on the trading of our common stock. If a delisting of our common stock were to occur, our common stock would trade on the OTC Bulletin Board or on the "pink sheets" maintained by the National Quotation Bureau, Inc. Such alternatives are generally considered to be less efficient markets, and our stock price, as well as the liquidity of our common stock, may be adversely impacted as a result. Delisting from The Nasdaq Global Market could also have other negative results, including the potential loss of confidence by suppliers and employees, the loss of institutional investor interest and fewer business development opportunities, as well as the loss of liquidity for our stockholders.

***If we fail to manage periodic contractions, we may utilize our cash balances, resulting in the decline of our existing cash, cash equivalents and investment balances.***

We anticipate that our existing cash resources will fund our operations and purchases of capital equipment, as well as provide adequate working capital for the next twelve months. However, our liquidity is affected by many factors including, among others, the extent to which we pursue additional capital expenditures, the level of our production, and other factors related to the uncertainties of the industry and global economies. If we fail to manage our contractions successfully we may draw down our cash reserves, which would adversely affect our operating results and financial condition, reduce our value and possibly impinge our ability to raise debt and equity funding in the future, at a time when we might be required to raise additional cash. Accordingly, there can be no assurance that events in the future will not require us to seek additional capital or, if required, that such capital would be available on terms acceptable to us, if at all. As part of our effort to reduce costs, we may lose key staff, production resources and technology that we will need to grow when end markets recover. These events could reduce our ability to grow profitably as markets recover.

***Unpredictable fluctuations in our operating results could disappoint analysts or our investors, which could cause our stock price to decline.***

We have experienced and may continue to experience significant fluctuations in our revenue and earnings. Our quarterly and annual revenue and operating results have varied significantly in the past and may vary significantly in the future due to a number of factors, including:

our ability to develop, manufacture and deliver high quality products in a timely and cost-effective manner;

decline in general economic conditions or downturns in the industry in which we compete;

fluctuations in demand for our products;

expansion of our manufacturing capacity;

expansion of our operations in China;

limited availability and increased cost of raw materials;



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the volume and timing of orders from our customers, and cancellations, push-outs and delays of customer orders once made;

fluctuation of our manufacturing yields;

decreases in the prices of our or our competitors' products;

costs incurred in connection with any future acquisitions of businesses or technologies; and

increases in our expenses, including expenses for research and development.

Due to these factors, we believe that period-to-period comparisons of our operating results may not be meaningful indicators of our future performance.

A substantial percentage of our operating expenses are fixed in the short term, and we may be unable to adjust spending to compensate for an unexpected shortfall in revenue. As a result, any delay in generating revenue could cause our operating results to be below the expectations of market analysts or investors, which could also cause our stock price to fall.

***We have adopted certain anti-takeover measures that may make it more difficult for a third party to acquire us.***

Our board of directors has the authority to issue up to 2,000,000 shares of preferred stock and to determine the price, rights, preferences and privileges of those shares without any further vote or action by the stockholders. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of the holders of any preferred stock that may be issued in the future. The issuance of shares of preferred stock could have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock. We have no present intention to issue additional shares of preferred stock.

We have adopted a preferred stock purchase rights plan intended to guard against certain takeover tactics. The adoption of this plan was not in response to any proposal to acquire us, and the board is not aware of any such effort. The existence of this plan could also have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock.

In addition, provisions in our amended and restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a merger, acquisition or change of control, or changes in our management, which could adversely affect the market price of our common stock. The following are some examples of these provisions:

the division of our board of directors into three separate classes, each with three-year terms;

the right of our board to elect a director to fill a space created by a board vacancy or the expansion of the board;

the ability of our board to alter our amended and restated bylaws; and

the requirement that only our board or the holders of at least 10% of our outstanding shares may call a special meeting of our stockholders.

Furthermore, because we are incorporated in Delaware, we are subject to the provisions of Section 203 of the Delaware General Corporation Law. These provisions prohibit us from engaging in any business combination with any interested stockholder (a stockholder who owns 15% or more of our outstanding voting stock) for a period of three years following the time that such stockholder became an interested stockholder, unless:

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66<sup>2</sup>/<sub>3</sub>% of the shares of voting stock not owned by the interested stockholder approve the merger or combination, or

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the board of directors approves the merger or combination or the transaction which resulted in the stockholder becoming an interested stockholder.

**Risks Related to Our Intellectual Property**

*Intellectual property infringement claims may be costly to resolve and could divert management attention.*

Other companies may hold or obtain patents on inventions or may otherwise claim proprietary rights to technology necessary to our business. The markets in which we compete are comprised of competitors that in some cases hold substantial patent portfolios covering aspects of products that could be similar to ours. We could become subject to claims that we are infringing patent, trademark, copyright or other proprietary rights of others. For example, we have in the past been involved in two separate lawsuits alleging patent infringement, and could in the future be involved in similar litigation.

*If we are unable to protect our intellectual property, we may lose valuable assets or incur costly litigation.*

We rely on a combination of patents, copyrights, trademark and trade secret laws, non-disclosure agreements and other intellectual property protection methods to protect our proprietary technology. However, we believe that, due to the rapid pace of technological innovation in the markets for our products, our ability to establish and maintain a position of technology leadership also depends on the skills of our development personnel. Despite our efforts to protect our intellectual property, third parties can develop products or processes similar to ours. Our means of protecting our proprietary rights may not be adequate, and our competitors may independently develop similar technology, duplicate our products or design around our patents. We believe that at least two of our competitors have begun to ship GaAs substrates produced using a process similar to our VGF technique. Our competitors may also develop and patent improvements to the VGF technology upon which we rely, and thus may limit any exclusivity we enjoy by virtue of our patents or trade secrets.

It is possible that pending or future United States or foreign patent applications made by us will not be approved, that our issued patents will not protect our intellectual property, or that third parties will challenge the ownership rights or the validity of our patents. In addition, the laws of some foreign countries may not protect our proprietary rights to as great an extent as do the laws of the United States and it may be more difficult to monitor the use of our intellectual property. Our competitors may be able to legitimately ascertain non-patented proprietary technology embedded in our systems. If this occurs, we may not be able to prevent the development of technology substantially similar to ours.

We may have to resort to costly litigation to enforce our intellectual property rights, to protect our trade secrets or know-how or to determine their scope, validity or enforceability. Enforcing or defending our proprietary technology is expensive, could cause us to divert resources and may not prove successful. Our protective measures may prove inadequate to protect our proprietary rights, and if we fail to enforce or protect our rights, we could lose valuable assets.

For example, we are currently in negotiations to renew a cross-license entered into with Sumitomo Electric Industries, Ltd. in Japan in connection with the settlement of prior litigation. There can be no assurance that the cross-license that expired on December 31, 2008 will be renewed, or on terms acceptable to us.

**Risks Related to Compliance and Other Legal Matters**

*We need to continue to improve or implement our systems, procedures and controls.*

The shift of our manufacturing operations to China and growth of our business has placed and continues to place a significant strain on our operations and management resources. We have upgraded our inventory control systems, but continue to rely on certain manual processes in our operations and

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in connection with consolidation of our financial results. If we fail to manage these changes effectively, our operations may be disrupted.

To manage our business effectively, we may need to implement additional and improved management information systems, further develop our operating, administrative, financial and accounting systems and controls, add experienced senior level managers, and maintain close coordination among our executive, engineering, accounting, marketing, sales and operations organizations.

***We are subject to internal control evaluations and attestation requirements of Section 404 of the Sarbanes-Oxley Act.***

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we must include in our Annual Report on Form 10-K a report of management on the effectiveness of our internal control over financial reporting. Ongoing compliance with this requirement is complex, costly and time-consuming. If: (1) we fail to maintain effective internal control over financial reporting; or (2) our management does not timely assess the adequacy of such internal control, we could be subject to regulatory sanctions and the public's perception of us may be adversely impacted.

***If we fail to comply with environmental and safety regulations, we may be subject to significant fines or forced to cease our operations; in addition, we could be subject to suits for personal injuries caused by hazardous materials.***

We are subject to federal, state and local environmental and safety laws and regulations in all of our operating locations, including laws and regulations of China, such as laws and regulations related to the development, manufacture and use of our products, the operation of our facilities, and the use of our real property. These laws and regulations govern the use, storage, discharge and disposal of hazardous chemicals during manufacturing, research and development, and sales demonstrations. If we fail to comply with applicable regulations, we could be subject to substantial liability for clean-up efforts, personal injury and fines or suspension or be forced to cease our operations, and/or suspend or terminate the development, manufacture or use of certain of our products, the use of our facilities, or the use of our real property, each of which could have a material adverse effect on our business, financial condition and results of operations.

We have in the past been the subject of claims made by the California Occupational Safety and Health Administration, or Cal-OSHA, in an investigation primarily regarding impermissible levels of potentially hazardous materials in certain areas of our manufacturing facility in Fremont, California. We were also previously the target of press allegations and correspondence purportedly on behalf of current and/or former employees concerning our environmental compliance programs and exposure of our employees to hazardous materials. In addition, a complaint was previously filed against us and two current officers, alleging personal injury, general negligence, intentional tort, wage loss and other damages, including punitive damages, as a result of exposure of plaintiffs to high levels of gallium arsenide in gallium arsenide wafers, and methanol. Other current and/or former employees could bring litigation against us in the future. Although we have put in place engineering, administrative and personnel protective equipment programs to address these issues, our ability to expand or continue to operate our present locations could be restricted or we could be required to acquire costly remediation equipment or incur other significant expenses if we were found liable for failure to comply with environmental and safety regulations. Existing or future changes in laws or regulations in the United States and China may require us to incur significant expenditures or liabilities, or may restrict our operations. In addition, our employees could be exposed to chemicals or other hazardous materials at our facilities and we may be subject to lawsuits seeking damages for wrongful death or personal injuries allegedly caused by exposure to chemicals or hazardous materials at our facilities.

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Litigation is inherently uncertain and while we would expect to defend ourselves vigorously, it is possible that our business, financial condition, results of operations or cash flows could be affected in any particular period by litigation pending and any additional litigation brought against us. In addition, future litigation could divert management's attention from our business and operations, causing our business and financial results to suffer. We could incur defense or settlement costs in excess of the insurance covering these litigation matters, or that could result in significant judgments against us or cause us to incur costly settlements, in excess of our insurance limits.

**Item 1B. *Unresolved Staff Comments***

None.

Table of Contents**Item 2. Properties**

Our principal properties as of February 28, 2010 are as follows:

Location	Square Feet	Principal Use	Ownership
Fremont, CA	27,760	Administration	Operating lease, expires November 2015
Beijing, China	33,000	Production	Owned
Beijing, China	34,000	Production	Owned
Beijing, China	48,000	Production	Owned
Beijing, China	22,000	Production and Administration	Owned
Beijing, China	53,000	Production	Owned
Xianxi, China	56,500	Production	Owned by Beijing Ji Ya Semiconductor Material, Co., Ltd.*
Xianxi, China	7,500	Administration	Owned by Beijing Ji Ya Semiconductor Material, Co., Ltd.*
Beijing, China	2,000	Administration	Operating lease by Beijing Ji Ya Semiconductor Material, Co., Ltd., expires February 2011
Nanjing, China	22,000	Production	Owned by Nanjing Jin Mei Gallium Co., Ltd.*
Nanjing, China	5,700	R&D and Administration	Owned by Nanjing Jin Mei Gallium Co., Ltd.*
Nanjing, China	3,900	Production	Owned by Nanjing Jin Mei Gallium Co., Ltd.*
Beijing, China	7,600	Production and Administration	Owned by Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd.*

\*

Joint ventures in which we hold an interest. We hold a 46% interest in Beijing Ji Ya Semiconductor Material Co., Ltd., a 83% interest in Nanjing Jin Mei Gallium Co., Ltd., and a 70% interest in Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd.

We consider each facility to be in good operating condition and adequate for its present use, and believe that each facility has sufficient plant capacity to meet its current and anticipated operating requirements.

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**Item 3. *Legal Proceedings***

From time to time we may be involved in judicial or administrative proceedings concerning matters arising in the ordinary course of business. We do not expect that any of these matters, individually or in the aggregate, will have a material adverse effect on our business, financial condition, cash flows or results of operation.

**Item 4. *Reserved***

None.

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Our common stock has been trading publicly on the NASDAQ Global Market (NASDAQ) under the symbol "AXTI" since May 20, 1998, the date we consummated our initial public offering. The following table sets forth the range of high and low sales prices of the common stock for the periods indicated, as reported by NASDAQ.

	High	Low
<b>2009</b>		
First Quarter	\$ 1.50	\$ 0.68
Second Quarter	\$ 1.55	\$ 0.76
Third Quarter	\$ 2.20	\$ 1.29
Fourth Quarter	\$ 3.40	\$ 1.71
<b>2008</b>		
First Quarter	\$ 7.20	\$ 4.22
Second Quarter	\$ 5.11	\$ 4.11
Third Quarter	\$ 4.76	\$ 1.85
Fourth Quarter	\$ 2.09	\$ 0.86

As of December 31, 2009, there were 86 holders of record of our common stock. Because many shares of AXT's common stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of beneficial owners of our common stock.

We have never paid or declared any cash dividends on our common stock and do not anticipate paying cash dividends in the foreseeable future. Dividends accrue on our outstanding Series A preferred stock at the rate of \$0.20 per annum per share of Series A preferred stock. The 883,000 shares of \$0.001 par value Series A preferred stock issued and outstanding as of December 31, 2009 and 2008 respectively, valued at \$3,532,000 are non-voting and non-convertible preferred stock with a 5.0% cumulative annual dividend rate payable when declared by the board of directors, and \$4 per share liquidation preference over common stock, and must be paid before any distribution is made to common stockholders. These preferred shares were issued to Lyte Optronics, Inc. stockholders in connection with the completion of our acquisition of Lyte Optronics, Inc. on May 28, 1999.

***Issuer Purchases of Equity Securities***

During the years ended December 31, 2009 and 2008, we did not repurchase any shares of our common stock.



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***Comparison of Stockholder Return***

Set forth below is a line graph comparing the annual percentage change in the cumulative total return to the stockholders of the Company on our common stock with the CRSP Total Return Index for the Nasdaq Stock Market (U.S. Companies) and the Nasdaq Electronic Components Index for the period commencing December 31, 2004, and ending December 31, 2009.

**COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN\***

Among AXT, Inc., The NASDAQ Composite Index  
And The NASDAQ Electronic Components Index

\*  
\$100 invested on 12/31/04 in stock & index including reinvestment of dividends.  
Fiscal year ending December 31.

	12/04	12/05	12/06	12/07	12/08	12/09
<b>AXT, Inc.</b>	<b>100.00</b>	<b>135.44</b>	<b>298.73</b>	<b>392.41</b>	<b>85.44</b>	<b>205.70</b>
<b>NASDAQ Composite</b>	<b>100.00</b>	<b>101.33</b>	<b>114.01</b>	<b>123.71</b>	<b>73.11</b>	<b>105.61</b>
<b>NASDAQ Electronic Components</b>	<b>100.00</b>	<b>107.81</b>	<b>101.44</b>	<b>116.92</b>	<b>59.73</b>	<b>97.30</b>

Table of Contents**Item 6. Selected Consolidated Financial Data**

The following selected consolidated financial data is derived from and should be read in conjunction with our consolidated financial statements and related notes set forth in Item 8 below, and in our previously filed reports on Form 10-K. See also Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" for further information relating to items reflecting our results of operations and financial condition.

	Years Ended December 31,				
	2009	2008	2007	2006	2005
	(in thousands, except per share data)				
Statements of Operations					
Data:					
Revenue	\$ 55,364	\$ 73,075	\$ 58,203	\$ 44,445	\$ 26,536
Cost of revenue	41,495	55,115	37,942	31,709	24,337
Gross profit	13,869	17,960	20,261	12,736	2,199
Operating expenses:					
Selling, general, and administrative	13,389	15,751	13,746	12,650	12,955
Research and development	1,569	2,164	1,699	2,351	1,723
Impairment (recovery of impairment) on assets held for sale		83	(481)	1,417	
Restructuring charge (benefit)	507			(2)	836
Total operating expenses	15,465	17,998	14,964	16,416	15,514
Income (loss) from continuing operations	(1,596)	(38)	5,297	(3,680)	(13,315)
Interest income, net	177	513	704	443	516
Other income (expense), net	385	1,290	1,912	3,672	(270)
Income (loss) from continuing operations before provision (benefit) for income taxes	(1,034)	1,765	7,913	435	(13,069)
Provision (benefit) for income taxes	471	1,023	728	(1,454)	(950)
Net (loss) income from continuing operations	(1,505)	742	7,185	1,889	(12,119)
Discontinued operations:					
Gain (loss) from discontinued operations, net of tax				18	(59)
Gain from disposal, net of tax					603
Gain from discontinued operations, net of taxes				18	544
Net income (loss)	\$ (1,505)	\$ 742	\$ 7,185	\$ 1,907	\$ (11,575)
Less: Net income attributable to noncontrolling interest	393	1,431	1,896	963	640
Net income (loss) attributable to AXT, Inc.	\$ (1,898)	\$ (689)	\$ 5,289	\$ 944	\$ (12,215)

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## Basic income (loss) per share:

Income (loss) from continuing operations	\$	(0.07)	\$	(0.03)	\$	0.17	\$	0.03	\$	(0.56)
Gain from discontinued operations, net of tax										0.02

Net income (loss) attributable to AXT, Inc	\$	(0.07)	\$	(0.03)	\$	0.17	\$	0.03	\$	(0.54)
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## Diluted income (loss) per share:

Income (loss) from continuing operations	\$	(0.07)	\$	(0.03)	\$	0.16	\$	0.03	\$	(0.56)
Gain from discontinued operations, net of tax										0.02

Net income (loss) attributable to AXT, Inc	\$	(0.07)	\$	(0.03)	\$	0.16	\$	0.03	\$	(0.54)
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## Shares used in per share calculations:

Basic	30,500	30,400	30,035	23,303	23,047
Diluted	30,500	30,400	31,348	24,600	23,047
			35		

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	December 31,				
	2009	2008	2007	2006	2005
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents	\$ 16,934	\$ 13,566	\$ 18,380	\$ 16,116	\$ 17,472
Short-term investments	18,469	17,756	20,825	19,428	5,555
Working capital	70,681	66,836	75,350	66,359	36,347
Restricted deposits		3,013	6,700	7,150	7,450
Total assets	107,946	111,662	112,772	98,332	74,798
Long-term debt, net of current portion	420	496	6,250	6,839	7,420
Stockholders' equity	97,251	96,876	96,986	83,629	57,515

All periods have been restated to reflect the accounting for discontinued operations. As a result, the discontinued opto-electronics and consumer products divisions have been eliminated from continuing operations in the statements of operations.

**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations**

In addition to historical information, the following discussion contains forward- looking statements that are subject to risks and uncertainties. Actual results may differ substantially from those referred to herein due to a number of factors, including but not limited to risks described in the section entitled Item 1A. "Risk Factors" and elsewhere in this Annual Report. This discussion should be read in conjunction with Item 6. "Selected Consolidated Financial Data" and our consolidated financial statements and related notes included elsewhere in this Form 10-K.

**Critical Accounting Policies and Estimates**

We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. Accordingly, we make estimates, assumptions and judgments that affect the amounts reported on our consolidated financial statements. These estimates, assumptions and judgments about future events and their effects on our results cannot be determined with certainty, and are made based upon our historical experience and on other assumptions that are believed to be reasonable under the circumstances. These estimates may change as new events occur or additional information is obtained, and we may periodically be faced with uncertainties, the outcomes of which are not within our control and may not be known for a prolonged period of time.

We have identified the policies below as critical to our business operations and understanding of our financial condition and results of operations. A critical accounting policy is one that is both material to the presentation of our consolidated financial statements and requires us to make difficult, subjective or complex judgments that could have a material impact on our consolidated financial statements. Different estimates that we could have used, or changes in the estimates that are reasonably likely to occur, may have a material impact on our financial condition or results of operations. We also refer you to our "The Company and Summary of Significant Accounting Policies" discussed in the accompanying notes to our consolidated financial statements included elsewhere in this Form 10-K.

**Revenue Recognition**

We manufacture and sell high-performance compound semiconductor substrates and sell certain raw materials including gallium, germanium dioxide, and pBN crucibles. After we ship our products, there are no remaining obligations or customer acceptance requirements that would preclude revenue recognition. Our products are typically sold pursuant to a purchase order placed by our customers, and our terms and conditions of sale do not require customer acceptance. We recognize revenue upon

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shipment and transfer of title of products to our customers, which is either upon shipment from our dock, receipt at the customer's dock, or removal from consignment inventory at the customer's location, provided that we have received a signed purchase order, the price is fixed or determinable, title and risk of ownership have transferred, collection of resulting receivables is probable, and product returns are reasonably estimable. We do not provide training, installation or commissioning services. Additionally, we do not provide discounts or other incentives to customers.

We provide for future returns based on historical experience, current economic trends and changes in customer demand at the time revenue is recognized.

***Allowance for Doubtful Accounts***

We periodically review the likelihood of collection on our accounts receivable balances and provide an allowance for doubtful accounts receivable primarily based upon the age of these accounts. We generally provide a 100% allowance for U.S. receivables in excess of 90 days and for foreign receivables in excess of 120 days. We assess the probability of collection based on a number of factors, including the length of time a receivable balance has been outstanding, our past history with the customer and their credit worthiness.

As of December 31, 2007, our accounts receivable balance was \$12.1 million, which was net of an allowance for doubtful accounts of \$0.4 million. As of December 31, 2008, our accounts receivable balance was \$11.5 million, which was net of an allowance for doubtful accounts of \$0.6 million. The increase of \$0.2 million in allowance for doubtful accounts from the prior year was mainly for one slow-paying customer in the United States in the amount of \$0.4 million, offset by subsequent collections from an Asian customer in the amount of \$0.2 million. As of December 31, 2009, our accounts receivable balance was \$15.4 million, which was net of an allowance for doubtful accounts of \$0.2 million. During 2009, we decreased this allowance by \$0.4 million primarily for improved collections from slow-paying customers in Asia, resulting in the allowance for doubtful accounts of \$0.2 million as of December 31, 2009. No amounts have been written off. If actual uncollectible accounts differ substantially from our estimates, revisions to the estimated allowance for doubtful accounts would be required, which could have a material impact on our financial results for the period.

The allowance for sales returns is also deducted from gross accounts receivable. Our allowance for sales returns was \$3,000 as of December 31, 2007. During 2008, we charged an additional \$130,000 in sales returns resulting in the allowance for sales returns of \$133,000 as of December 31, 2008. During 2009, we utilized \$119,000 and charged an additional \$842,000 resulting in the allowance for sales returns of \$856,000 as of December 31, 2009.

***Warranty Reserve***

We maintain a warranty reserve based upon our claims experience during the prior twelve months. Warranty costs are accrued at the time revenue is recognized. As of December 31, 2009 and 2008, accrued product warranties totaled \$1.1 million and \$1.6 million, respectively. The decrease in accrued product warranties is primarily attributable to decreased claims for quality issues experienced by some customers. If actual warranty costs differ substantially from our estimates, revisions to the estimated warranty liability would be required.

***Inventory Valuation***

Inventories are stated at the lower of cost or market. Cost is determined using the weighted average cost method. Our inventory consists of raw materials as well as finished goods and work-in-process that include material, labor and manufacturing overhead costs. Given the nature of our substrate products, and the materials used in the manufacturing process, the wafers and ingots comprising work-in-process may be held in inventory for up to two years and three years, respectively,

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as the risk of obsolescence for these materials is low. We routinely evaluate the levels of our inventory in light of current market conditions in order to identify excess and obsolete inventory and adjust the carrying value of certain inventories based upon the age and quality of the product and the projections for sale of the completed products. If actual demand for our products were to be substantially lower than estimated, additional inventory adjustments for excess or obsolete inventory might be required, which could have a material impact on our business, financial condition and results of operations.

***Impairment of Investments***

We classify our investments in debt and equity securities as available-for-sale securities in accordance with ASC topic 320, *Investments - Debt and Equity Securities* ("ASC 320"). All available-for-sale securities with a quoted market value below cost (or adjusted cost) are reviewed in order to determine whether the decline is other-than-temporary. Factors considered in determining whether a loss is temporary include the magnitude of the decline in market value, the length of time the market value has been below cost (or adjusted cost), credit quality, and our ability and intent to hold the securities for a period of time sufficient to allow for any anticipated recovery in market value.

We invest in equity instruments of privately-held companies for business and strategic purposes. These investments are classified as other assets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Determination of impairment is highly subjective and is based on a number of factors, including an assessment of the strength of investee's management, the length of time and extent to which the fair value has been less than our cost basis, the financial condition and near-term prospects of the investee, fundamental changes to the business prospects of the investee, share prices of subsequent offerings, and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in our carrying value. We had no write-downs in 2009, 2008 or 2007.

***Fair Value of Investments***

In the current market environment, the assessment of the fair value of debt instruments can be difficult and subjective. The volume of trading activity of certain debt instruments has declined, and the rapid changes occurring in today's financial markets can lead to changes in the fair value of financial instruments in relatively short periods of time. ASC 820 establishes three levels of inputs that may be used to measure fair value.

Level 1 instruments represent quoted prices in active markets. Therefore, determining fair value for Level 1 instruments does not require significant management judgment, and the estimation is not difficult. Level 2 instruments include observable inputs other than Level 1 prices, such as quoted prices for identical instruments in markets with insufficient volume or infrequent transactions (less active markets), issuer credit ratings, non-binding market consensus prices that can be corroborated with observable market data, model-derived valuations in which all significant inputs are observable or can be derived principally from or corroborated with observable market data for substantially the full term of the assets or liabilities, or quoted prices for similar assets or liabilities. These Level 2 instruments require more management judgment and subjectivity compared to Level 1 instruments, including:

Determining which instruments are most similar to the instrument being priced requires management to identify a sample of similar securities based on the coupon rates, maturity, issuer, credit rating, and instrument type, and subjectively select an individual security or multiple securities that are deemed most similar to the security being priced.

Determining whether a market is considered active requires management judgment. Our assessment of an active market for our marketable debt instruments generally takes into

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consideration activity during each week of the one-month period prior to the valuation date of each individual instrument, including the number of days each individual instrument trades and the average weekly trading volume in relation to the total outstanding amount of the issued instrument.

Determining which model-derived valuations to use in determining fair value requires management judgment. When observable market prices for identical securities or similar securities are not available, we price our marketable debt instruments using non-binding market consensus prices that are corroborated with observable market data or pricing models, such as discounted cash flow models, with all significant inputs derived from or corroborated with observable market data.

Level 3 instruments include unobservable inputs to the valuation methodology that are significant to the measurement of fair value of assets or liabilities. The determination of fair value for Level 3 instruments requires the most management judgment and subjectivity. As of December 31, 2009, we did not have any assets or liabilities without observable market values that would require a high level of judgment to determine fair value (Level 3 assets).

***Impairment of Long-Lived Assets***

We evaluate the recoverability of property, equipment and intangible assets in accordance with ASC topic 360, *Property, Plant and Equipment* ("ASC 360"). When events and circumstances indicate that long-lived assets may be impaired, we compare the carrying value of the long-lived assets to the projection of future undiscounted cash flows attributable to such assets. In the event that the carrying value exceeds the future undiscounted cash flows, we record an impairment charge against income equal to the excess of the carrying value over the asset's fair value. Fair value is generally determined by calculating the discounted future cash flows using a discount rate based upon our weighted average cost of capital, and specific appraisal in certain instances. Significant judgments and assumptions are required in the forecast of future operating results used in the preparation of the estimated future cash flows, including long-term forecasts of the amounts and timing of overall market growth and our percentage of that market, groupings of assets, discount rate and terminal growth rates. Changes in these estimates could have a material adverse effect on the assessment of long-lived assets, thereby requiring us to write down the assets. In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after deducting estimated commission and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. The sale of the property was consummated in March 2008 and we recorded an \$83,000 adjustment due to the final sales price of the property. We no longer have "Assets held for sale" on the consolidated balance sheet.

***Stock Based Compensation***

We grant options to substantially all management employees and believe that this program helps us to attract, motivate and retain high quality employees, to the ultimate benefit of our stockholders. We adopted the fair value recognition provisions of ASC 718, using the modified prospective method.

We recognize these compensation costs net of an estimated forfeiture rate over the requisite service period of the award, which is generally the vesting term of four years for stock options. Stock compensation expense recorded in cost of revenue, research and development, and selling, general and

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administrative expenses is the amortization of the fair value of share-based payments made to employees and members of our board of directors, primarily in the form of stock options and restricted stock (see Note 1 Summary of Significant Accounting Policies Stock-Based Compensation). All of our stock compensation is accounted for as an equity instrument.

We utilize the Black-Scholes option pricing model to estimate the grant date fair value of employee stock compensation awards, which requires the input of highly subjective assumptions, including expected volatility and expected term. Historical and implied volatility were used in estimating the fair value of our stock compensation awards, while the expected term for our options was estimated based on historical trends. Further, we estimate forfeitures for stock compensation awards that are not expected to vest. Changes in these inputs and assumptions can materially affect the measure of estimated fair value of our stock compensation. We charge the estimated fair value to earnings on a straight-line basis over the vesting period of the underlying awards, which is generally four years for our stock option awards.

The Black-Scholes option pricing model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. As our stock option awards have characteristics that differ significantly from traded options, and as changes in the subjective assumptions can materially affect the estimated value, our estimate of fair value may not accurately represent the value assigned by a third party in an arms-length transaction. There currently is no market-based mechanism to verify the reliability and accuracy of the estimates derived from the Black-Scholes option pricing model or other allowable valuation models, nor is there a means to compare and adjust the estimates to actual values. While our estimate of fair value and the associated charge to earnings materially affects our results of operations, it has no impact on our cash position.

There are significant variations among allowable valuation models, and there is a possibility that we may adopt a different valuation model or refine the inputs and assumptions under our current valuation model in the future resulting in a lack of consistency in future periods. Our current or future valuation model and the inputs and assumptions we make may also lack comparability to other companies that use different models, inputs, or assumptions, and the resulting differences in comparability could be material.

***Income Taxes***

We account for income taxes in accordance with ASC 740 which requires that deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. ASC 740 also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that a portion of the deferred tax asset will not be realized.

We provide for income taxes based upon the geographic composition of worldwide earnings and tax regulations governing each region, particularly China. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws, particularly in foreign countries such as China.

Effective January 1, 2007, we adopted ASC 740. See Note 12 "Income Taxes" in the consolidated financial statements for additional information.



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**Results of Operations**

*Overview*

We were founded in 1986 to commercialize and enhance our proprietary vertical gradient freeze (VGF) technique for producing high-performance compound semiconductor substrates. We have one operating segment: our substrate business, with limited additional raw materials sales. We recorded our first substrate sales in 1990 and our substrate division currently sells gallium arsenide (GaAs) and indium phosphide (InP) substrates to manufacturers of semiconductor devices for use in applications such as fiber optic and wireless telecommunications, light emitting diodes (LEDs) and lasers. We also sell raw materials including gallium and germanium through our participation in majority- and minority-owned joint ventures. During 2009, we continued to qualify our germanium substrates with satellite and terrestrial solar cell system manufacturers in the U.S. and Europe.

*Continuing Operations*

We manufacture all of our semiconductor substrates using our proprietary vertical gradient freeze (VGF) technology. Most of our revenue is from sales of GaAs substrates. We manufacture all of our products in the People's Republic of China (PRC or China), which generally has favorable costs for facilities and labor compared to comparable facilities in the United States or Europe. We also have five joint ventures in China that provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our final manufactured products.

Our business and operating results depend in significant part upon capital expenditures of semiconductor designers and manufacturers, which in turn depend upon the current and anticipated market demand for products incorporating semiconductors from these designers and manufacturers and our business depends in part on worldwide economic conditions. During 2009 the United States and other key international economies, experienced a period of severe recession characterized by falling demand for a variety of goods and services, including those related to the semiconductor industry. These conditions have adversely affected our results in the beginning of 2009. Should the worldwide economic downturn begin to lessen, and purchasing again increase, we believe that, demand for compound semiconductor substrates will also increase, and that we are well-positioned to leverage our PRC-based manufacturing capabilities and access to favorably priced raw materials to increase our market share if such improvements occur.

While the volatile business and financial markets are prompting us to continue to take a conservative approach to our business, we remain optimistic about our business. Positive industry trends, coupled with our competitive manufacturing and cost advantages give us confidence in our ability to continue to drive future businesses in 2010.

On March 17, 2009, our then-chief executive officer Dr. Philip C.S. Yin resigned as chairman of our Board and as chief executive officer. On July 20, 2009, the Board appointed Dr. Morris S. Young as chief executive officer. Dr. Young continues to serve as a member of the Board of Directors of the Company but is no longer eligible for compensation for his services as a director but instead would be paid compensation as disclosed on the Current Report on Form 8-K filed by the Company with the Securities and Exchange Commission on July 20, 2009. On October 29, 2009, we announced three executive promotions. Raymond A. Low, formerly AXT's vice president, corporate controller and acting chief financial officer, was appointed vice president and chief financial officer. Davis Zhang, formerly AXT's president of joint venture operations, was appointed president of AXT China Operations, with responsibility for managing and developing AXT's joint venture operations, as well as assisting the chief executive officer, with the management of AXT's manufacturing facilities in China. Robert G. Ochrym, formerly AXT's vice president of business development, was appointed vice president of business development, strategic sales and marketing. His responsibilities include sales for the North American East Coast and Europe and together with John J. Cerilli, vice president of global sales and marketing,

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maximizing customer support around the world. He will also be responsible for developing sales and marketing strategies, major sale contract negotiations, major market identification and other strategic sales and marketing functions. These executive promotions were disclosed on the Current Report on Form 8-K filed by the Company with the Securities and Exchange Commission on October 30, 2009.

**Revenue**

	Year Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
(\$ in thousands)							
GaAs	\$ 41,054	\$ 49,610	\$ 40,219	\$ (8,556)	(17.2)%	\$ 9,391	23.3%
InP	2,375	1,935	1,916	440	22.7	19	1.0
Ge	5,440	4,248	2,225	1,192	28.1	2,023	90.9
Raw Materials	6,440	17,232	13,790	(10,792)	(62.6)	3,442	25.0
Other	55	50	53	5	10.0	(3)	(5.7)
Total revenue	\$ 55,364	\$ 73,075	\$ 58,203	\$ (17,711)	(24.2)%	\$ 14,872	25.6%

Revenue decreased by \$17.7 million or 24.2%, to \$55.4 million in 2009 from \$73.1 million in 2008. Total GaAs substrate revenue decreased \$8.6 million, or 17.2%, to \$41.1 million in 2009 from \$49.6 million in 2008. Sales of 5 inch and 6 inch diameter GaAs substrates decreased \$4.4 million to \$17.2 million in 2009 compared to \$21.6 million in 2008 due to less than expected orders from a few handset market customers, inventory overhang and certain push-out of customer shipments particularly during the first and second quarters of 2009 due to the decline in overall worldwide market conditions. Similarly, the decrease of \$4.1 million in sales of 2 inch, 3 inch and 4 inch diameter GaAs substrate revenue was also due to less than expected orders from customers, inventory overhang and certain push-out of customer shipments particularly during the first and second quarters of 2009 due to the decline in overall worldwide market conditions.

Revenue increased by \$14.9 million or 25.6%, to \$73.1 million in 2008 from \$58.2 million in 2007. Total GaAs substrate revenue increased \$9.4 million, or 23.3%, to \$49.6 million in 2008 from \$40.2 million in 2007. Sales of 5 inch and 6 inch diameter GaAs substrates increased by \$5.3 million to \$21.6 million in 2008 compared to \$16.3 million in 2007 primarily due to our 6 inch supply agreement with IQE group which commenced in January 2008, partially offset by a small decline on 5 inch substrates due to lesser demand from one customer.

Sales of 2 inch, 3 inch and 4 inch diameter GaAs substrates were \$28.0 million in 2008 compared to \$23.9 million in 2007. The increase in revenue from smaller diameter substrates was primarily due to our supply agreement with IQE group on 4 inch diameter substrates which commenced in January 2008, offset by lesser demand for 2 inch substrates from several large semi-conducting customers as the economy softens in the second half of 2008. The increase in revenue from smaller diameter substrates was generally due to the continued market growth of LED laser diodes and commercial epitaxy.

InP substrate revenue increased by \$440,000, or 22.7%, to \$2.4 million in 2009 compared to \$1.9 million in 2008 due to growth in the optical networking industry, which uses InP to manufacture telecom lasers and also some growth in the demand for specialized automotive applications. In the prior year, InP substrate revenue increased by only \$19,000, or 1.0%, to \$1.9 million in 2008 compared to \$1.9 million in 2007 as the demand for specialized automotive applications and overall optical communications applications remained flat.

Ge substrate revenue increased by \$1.2 million, or 28.1%, to \$5.4 million in 2009 from \$4.2 million in 2008. This increase was mainly due to our newly qualified European customer for concentrated photovoltaic satellite applications. Ge substrate revenue increased by \$2.0 million, or 90.9%, to \$4.2 million in 2008 from \$2.2 million in 2007. That increase in germanium substrate revenue was due

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to the continuing increased demand for space and terrestrial based applications from our German and Chinese customers.

Raw materials revenue decreased \$10.8 million, or 62.6%, to \$6.4 million in 2009 from \$17.2 million in 2008. The decrease in raw materials revenue was primarily due to the worldwide drop in demand for 4N gallium. In particular, our China joint venture JiYa experienced the impact of the slowdown causing its customers to postpone or cancel orders while utilizing excess inventory. Raw materials revenue increased by \$3.4 million, or 25.0%, to \$17.2 million in 2008 from \$13.8 million in 2007 as a result of increased demand of 4N raw gallium. Our raw materials business has increasingly become an important part of our business, both in terms of providing us protection against raw materials pricing increases and supply constraints. Since we are able to supply raw materials necessary for the production of our substrates at favorable prices, our ability to sell such materials in the open market, at market prices, also provides us with pricing protection. We expect to continue to expand our raw materials sales efforts. However, as our contracted supply of high purity gallium with an independent third party expired in December 2008, we expect to increase our needed supply from our joint ventures, resulting in less raw materials available for sale to third parties going forward, and we expect the percentage of revenue from sales of raw materials to remain flat or increase slightly in 2010.

One customer represented greater than 10% of our total revenue, totaling 15% for the year ended December 31, 2009, one customer represented greater than 10% of our total revenue, totaling 19% for the year ended December 31, 2008, and one customer represented greater than 10% of our total revenue, totaling 12% for the year ended December 31, 2007. Our top five customers represented 41%, 46%, and 40% of revenue for the years ended December 31, 2009, 2008, and 2007, respectively.

## Revenue by Geographic Region

	2008 to 2009					2007 to 2008	
Year Ended Dec. 31,							
(\$ in thousands)	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
North America*	\$ 10,701	\$ 19,181	\$ 11,839	\$ (8,480)	(44.2)%	\$ 7,342	62.0%
% of total revenue	19%	26%	20%				
Europe	10,489	14,524	9,930	(4,035)	(27.8)	4,594	46.3
% of total revenue	19%	20%	17%				
Japan	7,777	14,685	13,280	(6,908)	(47.0)	1,405	10.6
% of total revenue	14%	20%	23%				
Taiwan	10,453	7,806	9,329	2,647	33.9	(1,523)	(16.3)
% of total revenue	19%	11%	16%				
Asia Pacific (excluding Japan and Taiwan)	15,944	16,879	13,825	(935)	(5.5)	3,054	22.1
% of total revenue	29%	23%	24%				
Total revenue	\$ 55,364	\$ 73,075	\$ 58,203	\$ (17,711)	(24.2)%	\$ 14,872	25.5%

\*

Primarily the United States.

Sales to customers located outside of North America represented approximately 81%, 74%, and 80% of our revenue during 2009, 2008 and 2007, respectively.

Revenue from customers located in North America decreased by \$8.5 million, or 44.2%, to \$10.7 million in 2009 from \$19.2 million in 2008. The worldwide economic slowdown caused the demand for products of our North American customer to drop, causing our North

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American customers to temporarily utilize their excess inventory. Revenue from customers located in North America increased by \$7.3 million, or 62.0%, to \$19.2 million in 2008 from \$11.8 million in 2007. This increase

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in 2008 was primarily due to our 4 inch and 6 inch supply agreements with IQE group which commenced in January 2008. Our 4 inch and 6 inch supply agreements with IQE group were renewed in December 2008, and expire in March 2010 for a total contract price of up to \$14.3 million.

Revenue from customers in Europe decreased by \$4.0 million, or 27.8%, to \$10.5 million in 2009 from \$14.5 million in 2008. This decrease came primarily from decreased raw material sales of \$2.1 million to customers in the United Kingdom, decreased raw material sales of \$1.0 million to customers in The Netherlands, primarily due to the worldwide drop in demand for 4N gallium, and decreased substrate sales to customers in France of \$0.9 million and to customers in Germany of \$0.5 million due to decreased demand for substrates. Revenue from customers located in Europe increased by \$4.6 million, or 46.3%, to \$14.5 million in 2008 from \$9.9 million in 2007. This increase resulted mainly from \$2.9 million in increased sales of raw materials to customers in the United Kingdom, \$0.7 million in increased sales to customers in Germany, which was mainly in Ge substrate sales, \$0.6 million in increased sales of 6 inch diameter GaAs substrates to customers in France, and \$0.4 million increase in 4N gallium sales to customers in the Netherlands.

Revenue from customers in Japan decreased by \$6.9 million, or 47%, to \$7.8 million in 2009 from \$14.7 million in 2008. Raw material sales of 4N gallium decreased by \$5.7 million as demand fell while substrate sales decreased by \$1.2 million, particularly in large diameter wafers. Revenue from customers in Japan increased by \$1.4 million, or 10.6%, to \$14.7 million in 2008 from \$13.3 million in 2007. The increase mainly came from large diameter substrates amounting to \$2.8 million, while raw material sales to existing customers decreased by approximately \$1.4 million as customers' inventory level increased towards the end of 2008.

Revenue from customers in Taiwan increased by \$2.6 million, or 33.9%, to \$10.5 million in 2009 from \$7.8 million in 2008. We have seen some recovery in demand from customers in the second half of 2009 for both small diameter LED wafers as well as large diameter semi-insulating wafers. Revenue from customers in Taiwan decreased by \$1.5 million, or 16.3%, to \$7.8 million in 2008 from \$9.3 million in 2007. We had approximately \$3.9 million less revenues from four existing small diameter LED customers in Taiwan, partially offset by a \$2.4 million increase in revenues from a few customers, including a new LED customer.

Revenue from customers in the Asia Pacific (excluding Japan and Taiwan) decreased by \$0.9 million, or 5.5%, to \$15.9 million in 2009 from \$16.9 million in 2008. Of this decrease, sales to customers in the PRC decreased by \$2.1 million due to a decrease in demand for raw materials and substrates, and sales to customers in Korea decreased by \$0.2 million, partially offset by an increase in sales to customers in Malaysia and Singapore of \$1.3 million. Revenue from customers in the Asia Pacific (excluding Japan and Taiwan) increased by \$3.1 million, or 22.1%, to \$16.9 million in 2008 from \$13.8 million in 2007. Of this increase, sales to customers in the PRC increased by \$2.5 million due to an increase in demand for raw materials and substrates, and sales to customers in Korea increased by \$0.3 million, while sales to customers in Malaysia and Singapore also increased by \$0.3 million from a large customer.

## Gross Margin

	Years Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Gross profit	\$ 13,869	\$ 17,960	\$ 20,261	\$ (4,091)	(22.8)%	\$ (2,301)	(11.4)%
Gross Margin							
%	25.1%	24.6%	34.8%				

Gross margin increased to 25.1% of total revenue in 2009 from 24.6% of total revenue in 2008. Gross margin in 2009 was positively impacted by the net sales of approximately \$1.2 million of GaAs

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wafers that were previously written off. In the past we reported the gross sale of fully reserved wafers and its effects on gross margin without taking into account the charge to cost of goods sold and its effect on gross margin for wafers that were added to fully reserved wafers. We are now reporting the net sale of fully reserved wafers and its effects on gross margin. The net sale is derived from the gross sale of fully reserved wafers less the charge to cost of goods sold for wafers that were added to fully reserved wafers. We have done this retroactively for all prior periods reported. The 2008 quarterly trend of gross margin for the first quarter to the fourth quarter of 31.7%, 32.3%, 25.4% and 4.8%, respectively, compared to the 2009 quarterly trend of gross margin for the first quarter to the fourth quarter of -3.1%, 19.3%, 32.9% and 33.9%, respectively, will provide a better understanding of the effects of the worldwide economic conditions experienced in the second half of 2008 and the first half of 2009. The improvement in gross margin in the second half of 2009 was primarily due to increases in our capacity utilization, favorable product mix, improved manufacturing efficiency, and a focus on cost-control. In the second half of 2008 and the first half of 2009, gross margins were negatively impacted by declining average selling prices and rising raw material costs. In the second half of 2009 average selling prices have declined at a lower rate and raw material costs had stabilized somewhat.

Gross margin decreased to 24.6% of total revenue in 2008 from 34.8% of total revenue in 2007. Gross margin in 2008 and 2007 was positively impacted by net sales of approximately \$1.8 million and \$1.2 million, respectively, of GaAs wafers that were previously written off. In the second half of 2008 gross margins were negatively impacted by declining average selling prices and rising raw material costs. In addition gross margin fell during the fourth quarter of 2008 when our gallium joint venture in China, which is housed in and receives services from an affiliated aluminum plant, ceased production for five weeks during the fourth quarter. Accordingly, in order to meet customer supply obligations, our joint venture had to source finished products from another independent third party supplier, resulting in low gross margin for the quarter.

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

	Years Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Selling, general and administrative expenses	\$ 13,389	\$ 15,751	\$ 13,746	\$ (2,362)	15.0%	\$ 2,005	14.6%
% of total revenue	24.2%	21.6%	23.6%				

Selling, general and administrative expenses decreased \$2.4 million to \$13.4 million for 2009 compared to \$15.8 million for 2008. The decrease was primarily due to (i) the absence in 2009 of the \$0.7 million rent deposit forfeited in 2008 as a result of a termination of our existing lease (ii) \$0.5 million lower rental expense as we entered into a new lease for smaller headquarters facilities as a result of our forfeiture of the rental deposit with the termination of an old lease, (iii) \$0.5 million lower bad debt expenses as we improved collections from slow paying customers in China and North America, (iv) the absence in 2009 of \$0.2 million for bank fees in connection with our paydown of our revenue bond in July 2008, (v) \$0.2 million less travel expenses from cost cutting measures, (vi) \$0.2 million lower China factory labor costs from reduced bonuses and reduced hours worked in the first half of 2009, and (vi) \$0.1 million for lower joint venture labor related and consulting costs.

Selling, general and administrative expenses increased \$2.0 million to \$15.7 million for 2008 compared to \$13.7 million for 2007. The increase was primarily due to (i) \$1.1 million higher compensation and related expenses, (ii) \$0.7 million higher rental expense as a result of our forfeiture of the rental deposit with the termination of an old lease, (iii) \$0.3 million for increased health insurance and other insurance costs, (iv) \$0.1 million for higher bank fees as we paid off the taxable revenue bond in July 2008, (v) \$0.1 million for higher joint venture labor related and consulting costs,

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(vi) \$0.1 million higher utility costs, and (vii) \$0.1 million higher stock compensation expenses as a result of annual option grants, partially offset by (viii) \$0.4 million lower legal expenses due to a refund from our insurance carrier, and (ix) \$0.1 million lower bad debt expense as aging improved from collections.

**Research and Development Expenses**

	Years Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Research and development expenses	\$ 1,569	\$ 2,164	\$ 1,699	\$ (595)	27.5%	\$ 465	27.4%
% of total revenue	2.8%	3.0%	2.9%				

Research and development expenses decreased \$0.6 million, or 27.5%, to \$1.6 million for 2009, from \$2.2 million for 2008 mainly from \$0.4 million less labor costs as a result of our restructuring in March 2009 and the absence of bonus accruals in the first half of 2009, and \$0.2 million less outside consulting costs and new products testing costs.

Research and development expenses increased \$0.5 million, or 27.4%, to \$2.2 million for 2008, from \$1.7 million for 2007 mainly from increases of \$0.3 million in salary and related costs as a result of the appointment of our chief technology officer in late 2007 and increases of approximately \$0.2 million in new product testing costs.

We expect our rate of expenditure on research and development costs in 2010 to increase as we continue to improve on processes and also develop 6" Ge wafers. Research and development at our joint ventures has been minimal.

**Impairment (recovery of impairment) on Assets Held for Sale, and Restructuring Charges (Benefit)**

	Years Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Impairment (recovery of impairment) on assets held for sale	\$	\$ 83	\$ (481)	\$ (83)	NM	\$ 564	117.3%
% of total revenue		% 0.1%	(0.8)%				
Restructuring charge (benefit)	\$ 507	\$	\$	\$ 507	NM	N/A	N/A
% of total revenue	0.9%		%	%			

NM:  
percentage not meaningful

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In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after deducting estimated commission and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. The sale of the property was consummated in March 2008 and we recorded an \$83,000 impairment charge due to the final sales price of the property.

During the first quarter of 2009, we reduced the workforce at our Fremont and Beijing facilities by approximately 11 positions that were no longer required to support certain production and administrative operations. This measure was being taken as part of our 2009 operating plan. Accordingly, we recorded a restructuring charge of \$507,000 in March 2009 related to the reduction in force for severance-related expenses from the reduction in force, all of which were paid in the second quarter of 2009. We expect to save approximately \$1.3 million annually in payroll and related expenses. We had no restructuring charge in 2008 nor 2007.

### Interest Income, Net

	Years Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase	%	Increase	%
				(Decrease)	Change	(Decrease)	Change
	(\$ in thousands)						
Interest income, net	\$ 177	\$ 513	\$ 704	\$ (336)	(65.5)%	\$ (191)	(27.1)%
% of total revenue	0.3%	0.7%	1.2%				

Interest income, net decreased \$0.3 million to \$0.2 million for 2009 from \$0.5 million for 2008 as a result of lower balances of investments in debt and equity instruments in 2009 compared to 2008 as well as higher interest income in 2008 from accrued interest that was paid out from two investments that we had sold in the first half of 2008.

Interest income, net decreased \$0.2 million to \$0.5 million for 2008 from \$0.7 million for 2007 as a result of lower balances of our cash and investments used in operations, and lower interest rate yields compared to 2007.

### Other Income and Expense, Net, and Noncontrolling Interest

	Years Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
(\$ in thousands)							
Other income and expense, net	\$ 385	\$ 1,290	\$ 1,912	\$ (905)	(70.2)%	\$ (622)	(32.5)%
% of total revenue	0.7%	1.8%	3.3%				
Noncontrolling interest	\$ (393)	\$ (1,431)	\$ (1,896)	\$ 1,038	72.5%	\$ 465	24.5%
% of total revenue	(0.7)%	(2.0)%	(3.3)%				

Other income and expense, net, was \$0.4 million in 2009 compared to other income and expense, net, of \$1.3 million in 2008. Other income, net was \$0.4 million for 2009 primarily due to investment gains of \$0.5 million from our minority-owned non-consolidated joint ventures, a realized gain of \$0.2 million on the sale of space in an office building owned by one of our joint ventures, partially offset by a \$0.2 million tax on foreign dividends and a \$0.1 million loss on sale of investments.



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Other income and expense, net, was \$1.3 million in 2008 compared to other income and expense, net, of \$1.9 million in 2007. Other income, net was \$1.3 million for 2008 primarily due to a realized gain of \$0.4 million on the sale of investments and other income, and investment gains of \$0.9 million from our minority-owned non-consolidated joint ventures.

Other income and expense, net was \$1.9 million for 2007 primarily due to a realized gain of \$1.0 million on the sale of investments, investment gains of \$0.9 million from our minority-owned non-consolidating joint ventures, receipt of \$0.3 million mainly comprised of insurance proceeds and sale of fully depreciated assets, partially offset by a \$0.3 million expense for foreign exchange losses primarily related to the Japanese yen.

Minority interest in earnings of consolidated subsidiaries for the years ended December 31, 2009, 2008, and 2007 were (\$0.4) million, (\$1.4) million, and (\$1.9) million, respectively. The decrease in minority interest from 2007 to 2009 was due to the overall decrease in profitability from our majority-owned consolidated subsidiaries, particularly our gallium joint venture in China due to the worldwide drop in demand for 4N gallium. In particular, our China joint venture JiYa experienced the impact of the slowdown causing their customers to postpone or cancel orders while utilizing excess inventory.

***Provision for Income Taxes***

	Years Ended Dec. 31,			2008 to 2009		2007 to 2008	
	2009	2008	2007	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Provision for income taxes	\$ 471	\$ 1,023	\$ 728	\$ (552)	(54.0)%	\$ 295	40.5%
% of total revenue	0.9%	1.4%	1.3%				

Provision for income taxes for 2009 was \$471,000, which was mostly related to our foreign subsidiaries. The decrease in tax provision was a result of our China subsidiary qualifying for lower tax rates as a high and new technology enterprise in 2009 compared to the same period last year.

Provision for income taxes for 2008 was \$1.0 million, which was related to our foreign subsidiaries. The increase in provision for income taxes from 2007 to 2008 was due to the phasing out of Chinese tax holidays from some of our consolidated subsidiaries beginning 2008.

Due to our uncertainty regarding our future profitability, we recorded a full valuation allowance against our net deferred tax assets of \$54.7 million in 2009, \$54.4 million in 2008, and \$53.7 million in 2007.

Provision for income taxes for 2007 was \$728,000, which was mostly related to our foreign subsidiaries.

Table of Contents**Liquidity and Capital Resources**

	Years Ended December 31,		
	2009	2008	2007
	(\$ in thousands)		
Net cash provided by (used in):			
Operating activities	\$ 4,665	\$ (3,762)	\$ 1,909
Investing activities	2,365	3,832	(3,514)
Financing activities	(3,692)	(5,477)	3,335
Effect of exchange rate changes	30	593	534
Net change in cash and cash equivalents	3,368	(4,814)	2,264
Cash and cash equivalents beginning period	13,566	18,380	16,116
Cash and cash equivalents end of period	16,934	13,566	18,380
Short-term investments end of period	18,469	17,756	20,825
Total cash, cash equivalents and short-term investments	\$ 35,403	\$ 31,322	\$ 39,205

We consider cash and cash equivalents, and short-term investments as liquid and available for use. Short-term investments are comprised of government bonds and high-grade commercial debt instruments. In December 2006 and January 2007, we generated approximately \$29 million in total proceeds as a result of our follow-on stock offering, and we utilized some of the proceeds in 2007, 2008 and 2009 mainly for working capital purposes. As of December 31, 2009, our principal sources of liquidity were \$35.4 million in cash and cash equivalents and short-term investments.

Cash and cash equivalents and short-term investments increased \$4.1 million to \$35.4 million from \$31.3 million as of December 31, 2008. The \$3.4 million combined increase in cash and cash equivalents was primarily due to net cash provided by operating activities of \$4.7 million, and net cash provided by investing activities of \$2.4 million, partially offset by net cash used in financing activities of \$3.7 million. Short-term investments increased by \$0.7 million to \$18.5 million from \$17.8 million.

Net cash provided by operating activities of \$4.7 million for 2009 was primarily comprised of our net loss of \$1.5 million, adjusted for non-cash items of depreciation of \$3.1 million, stock-based compensation of \$0.8 million, a restructuring charge of \$0.5 million, and a \$0.2 million loss on sale of investments, partially offset by a realized gain on sale of property, plant and equipment of \$0.2 million, and by a net decrease of \$1.9 million in assets and liabilities. The net decrease in assets and liabilities of \$1.9 million resulted from a \$7.4 million decrease in inventories, net, a \$0.7 million decrease in prepaid expenses, and a \$0.1 million increase in income taxes payable, partially offset by a \$3.9 million increase in accounts receivable, net, a \$1.1 million decrease in accounts payable, a \$0.8 million increase in other assets, a \$27,000 decrease in other long-term liabilities, and a \$0.5 million decrease in accrued liabilities.

Net cash used in operating activities of \$3.8 million for 2008 was primarily comprised of our net income of \$0.7 million, adjusted for non-cash items of depreciation of \$2.2 million, stock-based compensation of \$0.6 million, a \$0.1 million charge for impairment on assets held for sale, partially offset by a realized gain on sale of investments of \$0.3 million and offset by a net increase of \$7.1 million in assets and liabilities. The \$7.1 million net increase in assets and liabilities primarily resulted from a \$10.0 million increase in inventories, a \$0.1 million decrease in other long-term liabilities, a \$0.3 million decrease in income taxes payable and a \$0.1 million increase in other assets, partially offset by a \$2.2 million increase in accounts payable, a \$0.8 million decrease in accounts receivable, and a \$0.5 million decrease in prepaid expenses. Inventories, net, increased by \$10.0 million, as we increased inventory in raw materials and work-in-process to increase production in anticipation of increased forecast sales, and finished goods for consignment orders.

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Net cash provided by investing activities of \$2.4 million for the year ended December 31, 2009 included a decrease in our restricted deposits of \$3.0 million, net proceeds from investment securities totaling \$0.9 million, proceeds from the sale of property, plant and equipment of \$0.4 million, partially offset by purchases of property and equipment of \$1.9 million.

Net cash provided by investing activities of \$3.8 million for the year ended December 31, 2008 was primarily from the proceeds from the sale of investments of \$24.5 million, proceeds from sale of assets held for sale of \$5.1 million and the decrease of restricted cash of \$3.7 million, partially offset by the purchase of investments totaling \$22.6 million, and the purchase of property, plant and equipment of \$6.8 million.

In 2010 we expect to invest up to approximately \$7 million in projects at our China facilities, having delayed these as a result of the impact of the 2009 worldwide economic conditions.

Net cash used in financing activities was \$3.7 million for the year ended December 31, 2009 and consisted of \$3.1 million paying down our line of credit and long-term debt, \$1.0 million of dividends paid, partially offset by \$0.4 million from the proceeds from the exercise of employee stock options.

Net cash used in financing activities of \$5.5 million for the year ended December 31, 2008 consisted of a payment of \$6.7 million related to long term debt, \$2.0 million dividends paid, partially offset by \$3.0 million from the proceeds of a line of credit and \$0.2 million from the proceeds from the exercise of employee stock options.

We believe that we have adequate cash and investments to meet our needs over the next 12 months. If our sales decrease, however, our ability to generate cash from operations will be adversely affected which could adversely affect our future liquidity, require us to use cash at a more rapid rate than expected, and require us to seek additional capital. There can be no assurance that such additional capital will be available or, if available it will be on terms acceptable to us. Cash from operations could be affected by various risks and uncertainties, including, but not limited to those set forth below under Item 1A. "Risk Factors" above.

***Off-Balance Sheet Arrangements***

We do not have any off-balance sheet financing arrangements and have never established any special purpose entities. We have not entered into any options on non-financial assets.

***Contractual Obligations***

As of December 31, 2008, the credit facility maintained by us with a bank included a line of credit with an outstanding amount of \$3.0 million. We have pledged the same amount in cash as collateral for this facility. Accordingly, \$3.0 million of our cash and short-term investments are restricted. This line of credit was paid down in full in the fourth quarter of 2009.

We lease certain office space, manufacturing facilities and property under long-term operating leases expiring at various dates through November 2013. On July 2, 2008, we entered into a new lease agreement with the landlord of the facility at 4281 Technology Drive, Fremont, California with approximately 27,760 square feet. The new lease commenced December 1, 2008 for a term of seven years, with an option by us to cancel the new lease after five years, upon forfeiture of the security deposit and payment of one-half of the fifth year's rent. Total rent expenses under these operating leases were approximately \$0.3 million, 1.7 million (including a \$0.7 million forfeiture of rental deposit in terminating the old lease), and \$0.5 million for years ended December 31, 2009, 2008 and 2007, respectively.

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The following table summarizes our contractual obligations as of December 31, 2009 (in thousands):

Contractual Obligations	Total	Payments due by period			
		Less than 1 year	1-3 years	3-5 years	More than 5 years
Tenant improvement loan	\$ 496	\$ 76	\$ 161	\$ 174	\$ 85
Operating leases	1,740	309	557	588	286
Total	\$ 2,236	\$ 385	\$ 718	\$ 762	\$ 371

## *Selected Quarterly Results of Operations*

The following table sets forth unaudited quarterly results for the eight quarters ended December 31, 2009. We believe that all necessary adjustments, consisting only of normal recurring adjustments, have been included in the amounts stated below to present fairly such quarterly

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information. The operating results for any quarter are not necessarily indicative of results for any subsequent period.

(in thousands, except for per share amounts)	Quarters Ended							
	Dec. 31, 2009	Sept. 30, 2009	June 30, 2009	Mar. 31, 2009	Dec. 31, 2008	Sept. 30, 2008	June 30, 2008	Mar. 31, 2008
Revenue	\$ 17,836	\$ 16,819	\$ 13,055	\$ 7,654	\$ 15,646	\$ 17,863	\$ 19,932	\$ 19,634
Cost of revenue	11,784	11,281	10,539	7,891	14,888	13,326	13,488	13,413
Gross profit	6,052	5,538	2,516	(237)	758	4,537	6,444	6,221
Operating expenses:								
Selling, general and administrative	2,574	3,323	3,486	4,006	3,605	4,901	3,578	3,667
Research and development	394	360	355	460	529	562	569	504
Impairment (recovery of impairment) on assets held for sale								83
Restructuring charge				507				
Total operating expenses	2,968	3,683	3,841	4,973	4,134	5,463	4,147	4,254
Income (loss) from operations	3,084	1,855	(1,325)	(5,210)	(3,376)	(926)	2,297	1,967
Interest income, net	60	39	34	44	80	68	241	124
Other income and (expense), net	(152)	638	321	(422)	583	298	(518)	927
Income (loss) before provision (benefit) for income taxes	2,992	2,532	(970)	(5,588)	(2,713)	(560)	2,020	3,018
Provision (benefit) for income taxes	(42)	201	308	4	(349)	177	635	560
Net income (loss)	3,034	2,331	(1,278)	(5,592)	(2,364)	(737)	1,385	2,458
Less: Net income (loss) attributable to noncontrolling interest	257	210	2	(76)	7	277	648	499
Net income (loss) from continuing operations attributable to AXT, Inc	\$ 2,777	\$ 2,121	\$ (1,280)	\$ (5,516)	\$ (2,371)	\$ (1,014)	\$ 737	\$ 1,959
Net income (loss) attributable to AXT, Inc. per common share:								

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Basic	\$	0.09	\$	0.07	\$	(0.04)	\$	(0.18)	\$	(0.08)	\$	(0.03)	\$	0.02	\$	0.06
Diluted	\$	0.09	\$	0.07	\$	(0.04)	\$	(0.18)	\$	(0.08)	\$	(0.03)	\$	0.02	\$	0.06
Weighted average number of common shares outstanding:																
Basic		30,647		30,475		30,439		30,434		30,434		30,455		30,421		30,367
Diluted		31,322		30,911		30,439		30,434		30,434		30,455		31,562		31,585

### ***Recent Accounting Pronouncements***

In September 2006, FASB issued ASC topic 820, *Fair Value Measurements and Disclosures* ("ASC 820"). ASC 820 provides guidance for using fair value to measure assets and liabilities and also responds to investors' requests for expanded information about the extent to which companies measure assets and liabilities at fair value, the information used to measure fair value and the effect of fair

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value measurements on earnings. ASC 820 applies whenever other standards require (or permit) assets or liabilities to be measured at fair value. ASC 820 does not expand the use of fair value in any new circumstances. The Company adopted ASC 820 on January 1, 2008 for all financial assets and liabilities recognized or disclosed at fair value in its consolidated financial statements on a recurring basis (at least annually). In February 2008, the FASB amended ASC 820, providing a one year deferral for implementation of the standard for non-recurring, non-financial assets and liabilities, except for items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). The Company adopted ASC 820 on January 1, 2009 for nonfinancial assets and liabilities. The Company's adoption of ASC 820 did not have a material impact on its nonfinancial assets and liabilities or on its financial position and results of operations, other than requiring additional disclosures. Refer to Note 2.

In December 2007, the FASB issued ASC topic 805, *Business Combinations* ("ASC 805"). ASC 805 establishes revised principles and requirements for the recognition and measurement of assets and liabilities in a business combination. ASC 805 requires (i) recognition of 100% of the fair value of acquired assets, including goodwill, and assumed liabilities upon obtaining control, (ii) contingent consideration to be recorded at fair value at the acquisition date, (iii) transaction costs to be expensed as incurred, (iv) pre-acquisition contingencies to be accounted for at the acquisition date at fair value and (v) costs of a plan to exit an activity or terminate or relocate employees to be accounted for as post-combination costs. The provisions of this standard will apply to any acquisitions we complete on or after December 15, 2008. The Company adopted ASC 805 on January 1, 2009. There was no impact upon adoption of on our consolidated financial statements and its effects on future periods will depend on the nature and extent of business combinations that we complete, if any, in or after fiscal 2009.

In December 2007, the FASB issued ASC topic 810, *Consolidation* ("ASC 810"). ASC 810 clarifies the classification of noncontrolling interests in consolidated statements of financial position and the accounting for and reporting of transactions between the reporting entity and holders of such noncontrolling interests. The provisions of ASC 810 were applied to all noncontrolling interests prospectively, except for the presentation and disclosure requirements, which were applied retrospectively to all periods presented and have been disclosed as such in our consolidated financial statements herein. ASC 810 became effective for fiscal years beginning on or after December 15, 2008. The Company adopted ASC 810 on January 1, 2009. Upon adoption of ASC 810, the Company has recognized noncontrolling interests as equity in the consolidated balance sheets and has reflected net income attributable to noncontrolling interests in consolidated net income.

In March 2008, the FASB issued ASC topic 815, *Derivatives and Hedging* ("ASC 815"). ASC 815 requires expanded disclosures about (i) how and why an entity uses derivative instruments, (ii) how derivative instruments and related hedged items are accounted for ASC 815 and its related interpretations, and (iii) how derivative instruments and related hedged items affect an entity's financial position, financial performance and cash flows. ASC 815 was effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008. The Company adopted ASC 815 on January 1, 2009. We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In May 2008, the FASB issued ASC topic 470, *Debt, subtopic 20, Debt with Conversion and Other Options* ("ASC 470-20"). We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In June 2008, the FASB issued ASC topic 260, *Earnings per Share* ("ASC 260"). ASC 260 was issued to clarify that unvested share-based payment awards with a right to receive nonforfeitable dividends are participating securities and to provide guidance on how to allocate earnings to participating securities and compute basic earnings per share using the two-class method. ASC 260 was effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those years and requires retrospective application. The Company adopted ASC 260 on

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January 1, 2009 and applied it retrospectively to all periods presented. We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In April 2009, the FASB amended ASC topic 805, *Business Combinations* ("ASC 805"). ASC 805 requires that assets acquired and liabilities assumed in a business combination that arise from contingencies be recognized at fair value if fair value can be reasonably estimated. If fair value cannot be reasonably estimated, the asset or liability would generally be recognized in accordance with ASC topic 450, *Contingencies* ("ASC 450"). Further, the FASB removed the subsequent accounting guidance for assets and liabilities arising from contingencies from ASC topic 805, *Business Combinations*, subtopic 20, *Identifiable Assets and Liabilities and Any Noncontrolling Interest* ("ASC 805-20"). The requirements of this ASC carry forward without significant revision the guidance on contingencies of ASC 805 which was superseded by ASC 805-20. The ASC also eliminates the requirement to disclose an estimate of the range of possible outcomes of recognized contingencies at the acquisition date. For unrecognized contingencies, the FASB requires that entities include only the disclosures required by ASC 805. ASC 805-20 as modified is required to be applied prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. The adoption of ASC 805-20, as of January 1, 2009 had no impact on our consolidated financial statements and its effects on future periods will depend on the nature and extent of business combinations that we complete, if any, in or after fiscal 2009.

In April 2009, the FASB issued ASC topic 825, *Financial Instruments* ("ASC 825"). ASC 825 requires disclosures about fair value of financial instruments in interim reporting periods. Such disclosures were previously required only in annual financial statements. ASC 825 was effective for interim periods ending after June 15, 2009. The Company adopted ASC 825 in the second quarter of 2009 and has included the required disclosures in its consolidated financial statements. Refer to Note 2.

In April 2009, ASC 320, *Investments Debt and Equity Securities* ("ASC 320"). ASC 320 provides greater clarity about the credit and noncredit component of an other-than-temporary impairment event and more effectively communicates when an other-than-temporary impairment event has occurred. ASC 320 amends the other-than-temporary impairment model for debt securities. The impairment model for equity securities was not affected. Under ASC 320, an other-than-temporary impairment must be recognized through earnings if an investor has the intent to sell the debt security or if it is more likely than not that the investor will be required to sell the debt security before recovery of its amortized cost basis. This standard was effective for interim periods ending after June 15, 2009. The Company adopted ASC 825 in the second quarter of 2009. We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In May 2009, the FASB issued ASC topic 855 *Subsequent Events* ("ASC 855"). The statement defines the period after the balance sheet date during which management shall evaluate transactions for potential recognition or disclosure in the financial statements, the circumstances in which an entity shall recognize a subsequent event in its financial statements and the disclosures an entity shall make about subsequent events. This topic was effective for interim or annual periods ending after June 15, 2009. The Company adopted the topic as required and its adoption did not impact the consolidated financial statements other than the required additional disclosures.

In June 2009, the FASB issued ASC topic 810 *Amendments of FASB Interpretation No. 46(R)* ("ASC 810"). The emphasis of this statement is to improve financial reporting by enterprises involved with variable interest entities. The statement also addresses the effects on certain provisions of FASB Interpretation No. 46 (revised December 2003), "*Consolidation of Variable Interest Entities*," as a result of the elimination of the qualifying special-purpose entity concept in SFAS No. 166 and the application of certain key provisions of FASB Interpretation No. 46(R). This topic is effective as of the beginning of the first annual reporting period after November 15, 2009 for interim periods within that first annual reporting period, and for interim and annual reporting periods thereafter. The adoption of ASC 810 is not expected to have a material impact on the Company's consolidated financial statements.



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In June 2009, the FASB approved ASC topic 105, *Generally Accepted Accounting Principles* ("ASC 105", "Codification"), which establishes the Codification as the single source of authoritative nongovernmental U.S. GAAP. The Codification does not change current U.S. GAAP, but is intended to simplify user access to all authoritative U.S. GAAP by providing all the authoritative literature related to a particular topic in one place. All existing accounting standard documents will be superseded and all other accounting literature not included in the Codification will be considered nonauthoritative. The Codification combines all authoritative standards into a comprehensive, topically organized database. Since the Codification will completely replace existing standards, all future references to authoritative accounting literature references in the Company's financial statements will be in accordance with the Codification. The Codification is effective for interim and annual periods ending after September 15, 2009. The Company adopted ASC 105 in the third quarter of 2009. We have determined that there is no impact from adopting the Codification on our consolidated financial statements.

In various areas, including revenue recognition, stock option accounting, accounting standards and practices continue to evolve. Additionally, the SEC and the FASB's Emerging Issues Task Force continue to address revenues, stock option accounting related accounting issues. We believe that we are in compliance with all of the rules and related guidance as they currently exist. However, any changes to accounting principles generally accepted in the United States of America in these areas could impact the future accounting of our operations.

**Item 7A. *Quantitative and Qualitative Disclosures about Market Risk***

***Foreign Currency Risk***

A significant portion of our business is conducted in currencies other than the U.S. dollar. The functional currency for our foreign operations is the renminbi, the local currency of China, where our operating expenses are predominantly in the local currency. Since most of our operations are conducted in China, most of our costs are incurred in Chinese currency, which subjects us to fluctuations in the exchange rates between the U.S. dollar and the Chinese renminbi. We incur transaction gains or losses resulting from consolidation of expenses incurred in local currencies for these subsidiaries, as well as in translation of the assets and liabilities of these assets at each balance sheet date. These risks may be increased by the fluctuations and revaluations of the Chinese renminbi. Our financial results could be adversely affected by factors such as changes in foreign currency exchange rates or weak economic conditions in foreign markets, including the revaluation by China of the renminbi, and any future adjustments that China may make to its currency such as any move it might make to a managed float systems with opportunistic interventions. In the future we may experience foreign exchange losses on our non-functional currency denominated receivables and payables to the extent that we have not mitigated our exposure utilizing foreign currency forward exchange contracts. Foreign exchange losses could have a materially adverse effect on our operating results and cash flows.

We do not currently use short-term forward exchange contracts for hedging purposes to reduce the effects of adverse foreign exchange rate movements. We had previously purchased foreign exchange contracts to hedge against certain trade accounts receivable denominated in Japanese yen. The change in the fair value of the forward contracts was recognized as part of the related foreign currency transactions as they occur. As of December 31, 2009 and 2008, we had no outstanding commitments with respect to foreign exchange contracts.

During 2009, we recorded a net realized foreign exchange loss of \$76,000, included as part of other expense in our consolidated statements of operations. We incurred foreign currency transaction exchange gains and losses due to operations in general. It is uncertain whether these currency trends will continue. In the future we may experience foreign exchange losses on our non-functional currency denominated receivables and payables to the extent that we have not mitigated our exposure utilizing

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foreign currency forward exchange contracts. Foreign exchange losses could have a materially adverse effect on our operating results and cash flows. During 2009, we recorded unrealized foreign currency losses of \$30,000 included in the balance of accumulated other comprehensive income on our consolidated balance sheet.

In July 2005, China agreed to a shift in Chinese currency policy. It established a 2% revaluation of the renminbi and referenced the renminbi to a basket of currencies, with a daily trading band of +/-0.3%. Depending on market conditions and the state of the Chinese economy, it is possible that China will make more adjustments in the future. Over the next five to ten years, China may move to a managed float system, with opportunistic interventions. This reserve diversification may negatively impact the United States dollar and U.S. interest rates, which, in turn, could negatively impact our operating results and financial condition. The functional currency of our Chinese subsidiary, including our joint ventures, is the local currency; since most of our operations are conducted in China, most of our costs are incurred in Chinese currency, which subjects us to fluctuations in the exchange rates between the U.S. dollar and the Chinese renminbi. We incur transaction gains or losses resulting from consolidation of expenses incurred in local currencies for these subsidiaries, as well as in translation of the assets and liabilities of these assets at each balance sheet date. These risks may be increased by the fluctuation and revaluation of the Chinese renminbi. If we do not effectively manage the risks associated with this currency risk, our revenue, cash flows and financial condition could be adversely affected.

**Interest Rate Risk**

Cash and cash equivalents earning interest and certain variable rate debt instruments are subject to interest rate fluctuations. The following table sets forth the probable impact of a 10% change in interest rates (in thousands):

<b>Instrument</b>	<b>Balance as of December 31, 2009</b>	<b>Current Interest Rate</b>	<b>Projected Annual Interest Income/(Expense)</b>	<b>Proforma 10% Interest Rate Decline Income/(Expense)</b>	<b>Proforma 10% Interest Rate Increase Income/(Expense)</b>
Cash	\$ 16,790	0.50%	\$ 84	\$ 76	\$ 92
Cash equivalents	144	2.18	3	3	3
Investment in debt and equity instruments	18,469	4.76	879	791	967
Tenant improvement loan	(496)	4.00	(20)	(18)	(22)
			\$ 946	\$ 852	\$ 1,040

The primary objective of our investment activities is to preserve principal while maximizing income without significantly increasing risk. Financial instruments that potentially subject us to concentration of credit risk consist primarily of cash and cash equivalents, short-term investments, and trade accounts receivable. We invest primarily in money market accounts, commercial paper instruments, and investment grade securities. We are exposed to credit risks in the event of default by the issuers to the extent of the amount recorded on the consolidated balance sheets. These securities are generally classified as available-for-sale and consequently are recorded on the balance sheet at fair value with unrealized gains or losses reported as a separate component of accumulated other comprehensive income (loss), net of estimated tax. Our cash, cash equivalents and short-term investments are in high-quality securities placed with major banks and financial institutions and commercial paper. We have no investments in auction rate securities. As of December 31, 2009, we have approximately \$18.3 million in principal protected notes with Citicorp with a fair value of approximately \$18.5 million. We expect to decrease our exposure to Citicorp as these principal protected notes come due and the underlying assets are placed into diversified securities.

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We perform periodic credit evaluations of our customers' financial condition and generally do not require collateral. One customer accounted for 10% or more of our trade accounts receivable balance as of December 31, 2009 at 27%. Four customers each accounted for 10% or more of our trade accounts receivable balance as of December 31, 2008 one at 34%, two at 11%, and one at 10%, respectively.

***Equity Risk***

We maintain minority investments in privately-held companies. These investments are reviewed for other than temporary declines in value on a quarterly basis. These investments are classified as other assets in the consolidated balance sheets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Reasons for other than temporary declines in value include whether the related company would have insufficient cash flow to operate for the next twelve months, significant changes in the operating performance and changes in market conditions. As of December 31, 2009 and 2008, the minority investments totaled \$0.4 million for both years.

**Item 8. Consolidated Financial Statements and Supplementary Data**

The consolidated financial statements, related notes thereto and financial statement schedule required by this item are listed and set forth beginning on page 59, and is incorporated by reference here. Supplementary financial information regarding quarterly financial information required by this item is set forth under the caption "Selected Quarterly Results of Operations" in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," and is incorporated by reference here.

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

None.

**Item 9A. Controls and Procedures**

***Evaluation of disclosure controls and procedures.*** Disclosure controls and procedures are those controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including the principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure.

As of the end of the period covered by this report, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures pursuant to the rules and regulations promulgated under the Securities Exchange Act of 1934, as amended. This evaluation was done under the supervision and with the participation of our principal executive officer and principal financial officer and other management. Based upon this evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were effective as of December 31, 2008 to provide a reasonable level of assurance that the financial information we are required to disclose in the reports we file or submit under the Exchange Act was recorded, processed, summarized and reported accurately within the time periods specified in the SEC's rules and forms.

***Management's report on internal control over financial reporting***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act.

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Internal control over financial reporting is a process designed by, or under the supervision of, our principal executive officer and principal financial officer, and implemented by our Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States. Internal control over financial reporting includes those policies and procedures that:

pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and dispositions of our assets;

provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

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

Our management, under the supervision and with the participation of our principal executive officer and principal financial officer, has assessed the effectiveness of our internal control over financial reporting as of December 31, 2009 based on the criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that our internal control over financial reporting was effective as of December 31, 2009.

This annual report does not include an attestation report of the Company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the Company's registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this annual report.

***Changes in internal control over financial reporting.*** There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2009 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information**

None.

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**PART III**

The United States Securities and Exchange Commission ("SEC") allows us to include information required in this report by referring to other documents or reports we have already or will soon be filing. This is called "Incorporation by Reference." We intend to file our definitive proxy statement pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this report, and certain information therein is incorporated in this report by reference.

**Item 10. *Directors, Executive Officers and Corporate Governance***

The information required by this item with respect to identification of directors is incorporated by reference to the information contained in the section captioned "Information About our Board of Directors" in the Proxy Statement. The information with respect to our executive officers, is incorporated by reference to the information contained in the section captioned "Executive Officers" in the Proxy Statement. Information with respect to Items 405 of Regulation S-K is incorporated by reference to the information contained in the sections of the Proxy Statement captioned "Section 16(a) Beneficial Ownership Reporting Compliance." There will be no disclosure under Item 407(c)(3). Information with respect to Items 407(d)(4) and 407(d)(5) is incorporated by reference to the information contained in the sections of the Proxy Statement captioned "Corporate Governance Committees of the Board of Directors."

The Board of Directors of AXT, Inc. has adopted a Code of Conduct and Ethics (the "Code") that applies to our principal executive officers, principal financial officer, and corporate controller, as well as other employees. A copy of this Code has been posted on our Internet website at [www.axt.com](http://www.axt.com). Any amendments to, or waivers from, a provision of our Code that applies to our principal executive officer, principal financial officer, controller, or persons performing similar functions and that relates to any element of the Code enumerated in paragraph (b) of Item 406 of Regulation S-K shall be disclosed by posting such information on our website.

**Item 11. *Executive Compensation***

The information required by this Item is incorporated herein by reference to information set forth in our definitive Proxy statement to be filed in connection with our annual meeting of stockholders to be held on May 18, 2010, under the section entitled "Executive Compensation and Other Matters."

**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 information set forth in our definitive Proxy statement to be filed in connection with our annual meeting of stockholders to be held on May 18, 2010, under the section entitled "Security Ownership of Certain Beneficial Owners and Management and Equity Compensation Plan Information."

**Item 13. *Certain Relationships and Related Transactions and Director Independence***

Information required by this item will be set forth in the Proxy Statement for the 2010 Annual Meeting of Stockholders under the headings "Compensation Committee Interlocks and Insider Participation" and "Certain Relationships and Related Transactions," which information is incorporated herein by reference.

**Item 14. *Principal Accounting Firm Fees and Services***

The information required by this Item is incorporated herein by reference to information set forth in our definitive Proxy statement to be filed in connection with our annual meeting of stockholders to be held on May 18, 2010, under the section entitled "Principal Accounting Firm Fees."

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**PART IV**

**Item 15. Exhibits and Financial Statement Schedules**

(a) The following documents are filed as part of this report:

(1) Financial Statements:

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

<u>Report of Independent Registered Public Accounting Firm, Burr Pilger Mayer, Inc.</u>	<u>61</u>
<u>Consolidated Balance Sheets</u>	<u>62</u>
<u>Consolidated Statements of Operations</u>	<u>63</u>
<u>Consolidated Statements of Stockholders' Equity</u>	<u>64</u>
<u>Consolidated Statements of Cash Flows</u>	<u>65</u>
<u>Notes to Consolidated Financial Statements</u>	<u>66</u>
(2) Financial Statement Schedules	

All schedules have been omitted because the required information is not applicable or because the information required is included in the consolidated financial statements or notes thereto.

(b) Exhibits

See Index to Exhibits attached elsewhere to this Form 10-K. The exhibits listed in the accompanying Index to Exhibits are filed as part of, or incorporated by reference into, this report on Form 10-K.

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of AXT, Inc.

We have audited the accompanying consolidated balance sheets of AXT, Inc. and its subsidiaries (the "Company") as of December 31, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2009. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. 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 also includes examining, on a test basis, evidence supporting the amounts and disclosures in the 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 audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of AXT, Inc. and its subsidiaries as of December 31, 2009 and 2008, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2009, in conformity with accounting principles generally accepted in the United States of America.

/s/ Burr Pilger Mayer, Inc.

San Jose, California  
March 19, 2010

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## AXT, INC.

## CONSOLIDATED BALANCE SHEETS

December 31,  
2009                      2008  
(In thousands, except  
per share data)

**ASSETS**

## Current assets

Cash and cash equivalents	\$ 16,934	\$ 13,566
Short-term investments	18,469	17,756
Accounts receivable, net of allowances of \$1,019 and \$663 as of December 31, 2009 and 2008, respectively	15,362	11,497
Inventories	27,718	35,082
Prepaid expenses and other current assets	2,411	3,131
Total current assets	80,894	81,032
Property, plant and equipment, net	20,853	22,184
Restricted deposits		3,013
Other assets	6,199	5,433
Total assets	\$ 107,946	\$ 111,662

**LIABILITIES AND STOCKHOLDERS'****EQUITY**

## Current liabilities

Accounts payable	\$ 5,571	\$ 6,657
Accrued liabilities	2,170	1,967
Accrued compensation and related charges	1,093	764
Accrued product warranty	1,082	1,640
Line of credit		3,013
Current portion of long-term debt	76	73
Income taxes payable	221	82
Total current liabilities	10,213	14,196
Long-term debt, net of current portion	420	496
Other long-term liabilities	62	94
Total liabilities	10,695	14,786

## Commitments and contingencies (Note 17)

## Stockholders' equity:

Preferred stock, \$0.001 par value; 2,000 shares authorized; 883 shares issued and outstanding as of December 31, 2009 and 2008 (Liquidation preference of \$5.4 million and \$5.2 million as of December 31, 2009 and 2008, respectively)	3,532	3,532
Common stock, \$0.001 par value; 70,000 shares authorized; 30,880 and 30,513 shares issued and outstanding as of December 31, 2009 and 2008, respectively	30	30
Additional paid-in-capital	187,871	186,754
Accumulated deficit	(101,130)	(99,232)



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Other comprehensive income	4,300	2,580
Total AXT, Inc. stockholders' equity	94,603	93,664
Noncontrolling interests	2,648	3,212
Total stockholders' equity	97,251	96,876
Total liabilities and stockholders' equity	\$ 107,946	\$ 111,662

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

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## AXT, INC.

## CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2009	2008	2007
	(In thousands, except per share data)		
Revenue	\$ 55,364	\$ 73,075	\$ 58,203
Cost of revenue	41,495	55,115	37,942
Gross profit	13,869	17,960	20,261
Operating expenses:			
Selling, general, and administrative	13,389	15,751	13,746
Research and development	1,569	2,164	1,699
Impairment (recovery) on assets held for sale		83	(481)
Restructuring charge	507		
Total operating expenses	15,465	17,998	14,964
Income (loss) from continuing operations	(1,596)	(38)	5,297
Interest income, net	177	513	704
Other income, net	385	1,290	1,912
Income (loss) from continuing operations before provision (benefit) for income taxes	(1,034)	1,765	7,913
Provision for income taxes	471	1,023	728
Net (loss) income	(1,505)	742	7,185
Less: Net income attributable to noncontrolling interest	393	1,431	1,896
Net income (loss) attributable to AXT, Inc	\$ (1,898)	\$ (689)	\$ 5,289
Net income (loss) attributable to AXT, Inc. per common share:			
Basic	\$ (0.07)	\$ (0.03)	\$ 0.17
Diluted	\$ (0.07)	\$ (0.03)	\$ 0.16
Weighted average number of common shares outstanding:			
Basic	30,500	30,400	30,035
Diluted	30,500	30,400	31,348

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



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## AXT, INC.

## CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Preferred Stock		Common Stock		Additional	Accumulated	Other	AXT, Inc.	Noncontrolling	Total	
	Shares	\$	Shares	\$	Paid In Capital	Deficit	Comprehensive Income/(loss)	stockholder equity	interests	stockholder equity	Comprehensive Income/(loss)
(In thousands)											
Balance as of December 31, 2006	883	\$ 3,532	29,011	\$ 29	\$ 180,936	\$ (103,832)	\$ 535	\$ 81,200	\$ 2,429	\$ 83,629	
Common stock options exercised			461		902			902		902	
Stock-based compensation					498			498		498	
Issuance of common stock, net of stock issuance costs of \$60			863	1	3,613			3,614		3,614	
Issuance of common stock in the form of restricted stock			23								
Comprehensive income:											
Net income						5,289		5,289	1,896	7,185	5,289
Dividend declared									(589)	(589)	
Change in unrealized (loss) gain on marketable securities							(3)	(3)		(3)	(3)
Currency translation adjustment							1,750	1,750	0	1,750	1,750
Balance as of December 31, 2007	883	3,532	30,358	30	185,949	(98,543)	2,282	93,250	3,736	96,986	\$ 7,036
Common stock options exercised			92		171			171		171	
Stock-based compensation					634			634		634	
Issuance of common stock in the form of restricted stock			63								
Comprehensive loss:											
Net loss						(689)		(689)	1,431	742	(689)
Dividend declared									(1,955)	(1,955)	
Change in unrealized (loss) gain on marketable securities							(1,533)	(1,533)		(1,533)	(1,533)
Currency translation adjustment							1,831	1,831	0	1,831	1,831
Balance as of December 31, 2008	883	3,532	30,513	30	186,754	(99,232)	2,580	93,664	3,212	96,876	\$ (391)
Common stock options exercised			246		351			351		351	
Stock-based compensation					766			766		766	
Issuance of common stock in the form of restricted stock			121								
Comprehensive loss:											
Net loss						(1,898)		(1,898)	393	(1,505)	\$ (1,898)
Dividend declared									(957)	(957)	
Change in unrealized (loss) gain on marketable securities							1,750	1,750		1,750	1,750
Currency translation adjustment							(30)	(30)	0	(30)	(30)
Balance as of December 31, 2009	883	\$ 3,532	30,880	\$ 30	\$ 187,871	\$ (101,130)	\$ 4,300	\$ 94,603	\$ 2,648	\$ 97,251	\$ (178)

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

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## AXT, INC.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2009	2008	2007
	(In thousands)		
<b>Cash flows from operating activities:</b>			
Net income (loss)	\$ (1,505)	\$ 742	\$ 7,185
Adjustments to reconcile net income (loss) to cash provided by (used in) operations:			
Depreciation	3,058	2,194	1,473
Amortization (accretion) of marketable securities premium/discount	(12)	(9)	(52)
Stock-based compensation	766	634	498
Impairment (recovery of impairment) on assets held for sale		83	(481)
Realized loss (gain) on sale of investments	164	(326)	(1,028)
Restructuring charge	507		
(Gain) loss on disposal of property, plant and equipment	(237)	8	(16)
Changes in assets and liabilities:			
Accounts receivable, net	(3,880)	805	(2,351)
Inventories	7,352	(10,047)	(4,269)
Prepaid expenses	717	544	591
Other assets	(769)	(135)	(874)
Accounts payable	(1,079)	2,162	461
Accrued liabilities	(529)	4	893
Income taxes	139	(312)	188
Other long-term liabilities	(27)	(109)	(309)
Net cash provided by (used in) operating activities	4,665	(3,762)	1,909
<b>Cash flows from investing activities:</b>			
Purchases of property, plant and equipment	(1,963)	(6,788)	(3,706)
Proceeds from disposal of property, plant and equipment	430	5	62
Purchases of marketable securities	(3,012)	(22,624)	(36,105)
Proceeds from sale of marketable securities	3,897	24,495	35,785
Proceeds from sale of assets held for sale		5,057	
Decrease in restricted deposits	3,013	3,687	450
Net cash provided by (used in) investing activities	2,365	3,832	(3,514)
<b>Cash flows from financing activities:</b>			
Proceeds from issuance of common stock	351	171	4,516
Proceeds from line of credit		3,013	
Dividends paid	(957)	(1,955)	(589)
Payment on line of credit	(3,013)		
Long-term debt payments	(73)	(6,706)	(592)
Net cash provided by (used in) financing activities	(3,692)	(5,477)	3,335
Effect of exchange rate changes	30	593	534
Net increase (decrease) in cash and cash equivalents	3,368	(4,814)	2,264
Cash and cash equivalents at the beginning of the year	13,566	18,380	16,116

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Cash and cash equivalents at the end of the year	\$	16,934	\$	13,566	\$	18,380
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## **Supplemental disclosures:**

Interest paid	\$	72	\$	227	\$	382
Income taxes paid	\$	887	\$	1,492	\$	483

## **Supplemental non-cash investing and financing activities:**

Property, plant and equipment acquired through the issuance  
of debt

\$ 575 \$

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

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**AXT, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 1. The Company and Summary of Significant Accounting Policies**

***The Company***

AXT, Inc. ("AXT", "we," "us," and "our" refer to AXT, Inc. and all of its subsidiaries) designs, develops, manufactures and distributes high-performance compound semiconductor substrates. Our substrate products are used primarily in wireless communications, lighting display applications, and fiber optic communications. We believe our vertical gradient freeze, or VGF, technique for manufacturing semiconductor substrates provides significant benefits over other methods and enabled us to become a leading manufacturer of such substrates. We pioneered the commercial use of VGF technology to manufacture gallium arsenide (GaAs) substrates and subsequently used VGF technology to manufacture substrates from indium phosphide (InP), and germanium (Ge). We also manufacture and sell raw materials related to our substrate business through five joint ventures located in China. These joint ventures produce products including 99.99% pure gallium (4N Ga), high purity gallium, arsenic, and germanium, germanium dioxide, paralytic boron nitride (pBN) crucibles, and boron oxide. AXT's ownership interest in these entities ranges from 25 percent to 83 percent. We consolidate the three ventures in which we own a majority or controlling share and employ equity accounting for the two joint ventures in which we have a 25 percent interest. We purchase the materials produced by these ventures for our use and sell other portions of their production to third parties.

***Use of Estimates***

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

***Principles of Consolidation***

The consolidated financial statements include the accounts of AXT and our majority-owned subsidiaries. All significant inter-company accounts and transactions have been eliminated. Investments in business entities in which we do not have control, but have the ability to exercise significant influence over operating and financial policies (generally 20-50% ownership), are accounted for by the equity method.

***Fair Value of Financial Instruments***

The carrying amounts of certain of our financial instruments including cash and cash equivalents, accounts receivable, short-term investments, accounts payable and accrued liabilities approximate fair value due to their short maturities. The carrying amounts of short-term and long-term debt approximate fair value due to the market interest rates that these debts bear and interest rates currently available to us.

***Reclassifications***

Certain reclassifications have been made to the prior years' consolidated financial statements to conform to current year presentation. These reclassifications had no impact on previously reported total assets, stockholders' equity or net income (loss).

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***Foreign Currency Translation***

The functional currencies of our Chinese subsidiaries are the local currencies. Transaction gains and losses resulting from transactions denominated in currencies other than the U.S. dollar or in the functional currencies of our subsidiaries are included in other income, net for the periods presented.

The assets and liabilities of the subsidiaries are translated at the rates of exchange on the balance sheet date. Revenue and expense items are translated at the average rate of exchange for the period. Gains and losses from foreign currency translation are included in other comprehensive income (loss) in stockholders' equity.

***Revenue Recognition***

We recognize revenue upon the shipment of our products to customers when:

we have received a signed purchase order placed by our customers,

the price is fixed or determinable,

title and risk of ownership has transferred to our customers upon shipment from our dock, receipt at customer's dock, or removal from consignment inventory at customer's location,

collection of resulting receivables is probable, and

product returns are reasonably estimable.

We do not provide training, installation or commissioning services. Our terms and conditions of sale do not require customer acceptance. We assess the probability of collection based on a number of factors including past history with the customer and credit worthiness. We provide for future returns based on historical experience, current economic trends and changes in customer demand at the time revenue is recognized. Additionally, we do not provide discounts or other incentives to customers. We present our revenue net of any taxes assessed by any governmental authority.

***Accounting for Sales Taxes in Net Revenues***

We report sales taxes collected on sales of our products as a component of net revenues and as accrued liabilities on our consolidated balance sheets. The amount is immaterial for fiscal years 2009, 2008 and 2007.

***Concentration of Credit Risk***

Our business is very dependent on the semiconductor industry, which is highly cyclical and has historically experienced downturns as a result of economic changes, overcapacity, and technological advancements. Significant technological changes in the industry or customer requirements, or the emergence of competitive products with new capabilities or technologies, could adversely affect operating results. In addition, a significant portion of our revenues and net income (loss) is derived from international sales. Fluctuations of the United States dollar against foreign currencies and changes in local regulatory or economic conditions, particularly in an emerging market such as China, could adversely affect operating results.

We depend on a single or limited number of suppliers for certain critical materials used in the production of our substrates, such as quartz tubing, and polishing solutions. We generally purchase these materials through standard purchase orders and not pursuant to long-term supply contracts.

Financial instruments that potentially subject us to concentration of credit risk consist primarily of cash equivalents, short-term investments, and trade accounts receivable. We invest primarily in money market accounts, commercial paper instruments, and investment grade securities



with high quality

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financial institutions. The composition and maturities are regularly monitored by management. Such deposits are in excess of the amount of the insurance provided by the federal government on such deposits. We are exposed to credit risks in the event of default by the issuers to the extent of the amount recorded on the consolidated balance sheets. As of December 31, 2009, we have approximately \$18.3 million in principal protected notes with Citicorp Smith Barney, which had a fair value of approximately \$18.5 million.

We perform ongoing credit evaluations of our customers' financial condition, and limit the amount of credit extended when deemed necessary, but generally do not require collateral. The credit risk in our accounts receivable is substantially mitigated by our credit evaluation process, reasonably short collection terms and the geographical dispersion of sales transactions. One customer represented greater than 10% of revenue for the year ended December 31, 2009, totaling 15%, one customer represented greater than 10% of revenue for the year ended December 31, 2008, totaling 19%, and one customer represented greater than 10% of revenue, totaling 12%, for the year ended December 31, 2007. Our top five customers represented 41% of revenue for the year ended December 31, 2009, 46% of revenue for the year ended December 31, 2008, and 40% of revenue for the year ended December 31, 2007. We expect that sales to a small number of customers will continue to comprise a significant portion of our revenue in the future. One customer accounted for 10% or more of our trade accounts receivable balance as of December 31, 2009 at 27%. Four customers each accounted for 10% or more of our trade accounts receivable balance as of December 31, 2008 at 34%, 11%, 11% and 10%, respectively.

***Cash Equivalents and Short-Term Investments***

We classify our investments in debt and equity securities as available-for-sale securities as prescribed by ASC topic 320, *Debt and Equity Securities* ("ASC 320"). We consider investments in highly liquid instruments purchased with an original maturity of three months or less to be cash equivalents. Our short-term investments are reported at fair value as of the respective balance sheet dates with unrealized gains and losses included in accumulated other comprehensive income (loss) within stockholders' equity on the consolidated balance sheets. The amortized cost of securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization is included in other income, net in the consolidated statements of operations. Realized gains and losses and declines in value judged to be other than temporary on available-for-sale securities are also included in other income, net in the consolidated statements of operations. The cost of securities sold is based upon the specific identification method.

All available-for-sale securities with a quoted market value below cost (or adjusted cost) are reviewed in order to determine whether the decline is other-than-temporary. Factors considered in determining whether a loss is temporary include the magnitude of the decline in market value, the length of time the market value has been below cost (or adjusted cost), credit quality, and our ability and intent to hold the securities for a period of time sufficient to allow for any anticipated recovery in market value.

***Accounts Receivable and Allowance for Doubtful Accounts***

Accounts receivable are recorded at the invoiced amount and are not interest bearing. We maintain an allowance for doubtful accounts to reserve for potentially uncollectible trade receivables. We also review our trade receivables by aging category to identify specific customers with known disputes or collectability issues. We exercise judgment when determining the adequacy of these reserves as we evaluate historical bad debt trends, general economic conditions in the United States and internationally, and changes in customer financial conditions. Uncollectible receivables are recorded as bad debt expense when all efforts to collect have been exhausted and recoveries are recognized when they are received.

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As of December 31, 2007, our accounts receivable balance was \$12.1 million, which was net of an allowance for doubtful accounts of \$0.4 million. As of December 31, 2008, our accounts receivable balance was \$11.5 million, which was net of an allowance for doubtful accounts of \$0.6 million. The increase of \$0.2 million in allowance for doubtful accounts from prior year was mainly for one slow-paying customer in the United States in the amount of \$0.4 million, offset by subsequent collections from an Asian customer in the amount of \$0.2 million. As of December 31, 2009, our accounts receivable balance was \$15.4 million, which was net of an allowance for doubtful accounts of \$0.2 million. During 2009, we decreased this allowance by \$0.4 million primarily for improved collections from slow-paying customers in Asia, resulting in the allowance for doubtful accounts of \$0.2 million as of December 31, 2009. No amounts have been written off. If actual uncollectible accounts differ substantially from our estimates, revisions to the estimated allowance for doubtful accounts would be required, which could have a material impact on our financial results for the period.

The allowance for sales returns is also deducted from gross accounts receivable. Our allowance for sales returns was \$3,000 as of December 31, 2007. During 2008, we charged an additional \$130,000 in sales returns resulting in the allowance for sales returns of \$133,000 as of December 31, 2008. During 2009, we utilized \$119,000 and charged an additional \$842,000 resulting in the allowance for sales returns of \$856,000 as of December 31, 2009.

***Inventories***

Inventories are stated at the lower of cost (approximated by standard cost) or market. Cost is determined using the weighted average cost method. Our inventory consists of raw materials as well as finished goods and work-in-process that include material, labor and manufacturing overhead costs. Provision for potentially obsolete or slow moving inventory is made based on management's analysis of inventory levels and sales forecasts.

***Property, Plant and Equipment***

Property, plant and equipment are stated at cost less accumulated depreciation computed using the straight-line method over the estimated economic lives of the assets, which vary from 3 to 27.5 years. Leasehold improvements are amortized over the shorter of the estimated useful life or the term of the lease. We generally depreciate computers and software over 3 years, office equipment, furniture and fixtures over 3 years, automobiles over 5 years, leasehold improvements over 10 years, or lease term if shorter, and buildings over 27.5 years. Repairs and maintenance costs are expensed as incurred.

***Impairment of Long-Lived Assets***

We evaluate the recoverability of property, equipment and intangible assets in accordance with ASC topic 360, *Property, Plant and Equipment* ("ASC 360"). When events and circumstance indicate that long-lived assets may be impaired, management compares the carrying value of the long-lived assets to the projection of future undiscounted cash flows attributable to such assets and in the event that the carrying value exceeds the future undiscounted cash flows, we record an impairment charge against income equal to the excess of the carrying value over the asset's fair value. In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after deducting estimated commission and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. The sale of the property was consummated in March 2008 and we recorded an \$83,000 impairment charge

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due to the final sales price of the property. We no longer have "Assets held for sale" on the consolidated balance sheet.

***Segment Reporting***

Our business is conducted in a single operating segment. Our principal executive officer reviews a single set of financial data that encompasses our entire operations for purposes of making operating decisions and assessing financial performance. Our principal executive officer manages our Company based primarily on broad functional categories of sales, manufacturing, product development and engineering and marketing and strategy. While we obtain financial statements from all of our joint ventures in order to prepare our consolidated financial statements, we do not review them either individually or in the aggregate when making operating decisions for our business. We manage the Company on a consolidated basis with a review of revenue by product. We discuss revenue and capacity for both AXT and our joint ventures collectively, when determining capacity constraints and need for raw materials in our business, and consider their capacity when determining our strategic and product marketing and advertising strategies. While we consolidate three of the joint ventures we do not allocate resources to any of them, nor allocate any portion of overhead, interest and other income, interest expense or taxes to them. We therefore have determined that our joint venture operations do not constitute an operating segment.

***Investments***

We invest in equity instruments of privately-held companies for business and strategic purposes. These investments are classified as other assets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Determination of impairment is highly subjective and is based on a number of factors, including an assessment of the strength of investee's management, the length of time and extent to which the fair value has been less than our cost basis, the financial condition and near-term prospects of the investee, fundamental changes to the business prospects of the investee, share prices of subsequent offerings, and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in our carrying value.

***Stock-Based Compensation***

We have employee stock option plans, which are described more fully in Note 10 Employee Benefit Plans. We account for stock-based compensation in accordance with the provisions of ASC topic 718, *Stock Compensation* ("ASC 718"), which established accounting for stock-based awards exchanged for employee services. Accordingly, stock-based compensation cost is measured at each grant date, based on the fair value of the award, and is recognized as expense over the employee's requisite service period of the award. All of the Company's stock compensation is accounted for as an equity instrument. The provisions of ASC 718 apply to all awards granted or modified after the date of adoption which was January 1, 2006. The unrecognized expense of awards not yet vested at the date of adoption will be recognized in net income (loss) in the periods after the date of adoption using the same Black-Scholes valuation method and assumptions determined under the original provisions of ASC 718.

We recorded \$766,000, \$634,000 and \$498,000 of stock-based compensation in our consolidated statements of operations for the years ended December 31, 2009, 2008 and 2007, respectively. We utilized the Black-Scholes valuation model for estimating the fair value of the stock compensation

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granted both before and after the adoption of ASC 718. The following table summarizes compensation costs related to our stock-based compensation awards (in thousands, except per share data):

	Years Ended December 31,		
	2009	2008	2007
Stock-based compensation in the form of employee stock options and restricted stock, included in:			
Cost of revenue	\$ 39	\$ 53	\$ 53
Selling, general and administrative	672	467	360
Research and development	55	114	85
Total stock-based compensation	766	634	498
Tax effect on stock-based compensation			
Net effect on net income	\$ 766	\$ 634	\$ 498
Shares used in computing basic net income per share	30,500	30,400	30,035
Shares used in computing diluted net income per share	30,500	30,400	31,348
Effect on basic net income per share	\$ (0.03)	\$ (0.02)	\$ (0.02)
Effect on diluted net income per share	\$ (0.03)	\$ (0.02)	\$ (0.02)

As of December 31, 2009, the total compensation cost related to unvested stock-based awards granted to employees under our stock option plans but not yet recognized was approximately \$1.1 million, net of estimated forfeitures of \$233,000. This cost will be amortized on a straight-line basis over a weighted-average period of approximately 3.40 years and will be adjusted for subsequent changes in estimated forfeitures. As of December 31, 2008, the total compensation cost related to unvested stock-based awards granted to employees under our stock option plans but not yet recognized was approximately \$1.1 million, net of estimated forfeitures of \$139,000. This cost is being amortized on a straight-line basis over a weighted-average period of approximately 2.79 years and will be adjusted for subsequent changes in estimated forfeitures. We did not capitalize any stock-based compensation to inventory as of December 31, 2009 and 2008, as the amounts are not significant.

We estimate the fair value of stock options using a Black-Scholes valuation model, consistent with the provisions of ASC 718 and Securities and Exchange Commission Staff Accounting Bulletin No. 107. The weighted-average grant date fair value of our stock options granted to employees during 2009, 2008, and 2007 was \$0.99, \$0.77, and \$2.60 per share, respectively. The fair value of options granted was estimated at the date of grant using the following weighted-average assumptions:

	Years Ended December 31,		
	2009	2008	2007
Risk-free interest rate	2.04%	2.30%	3.11%
Expected life (in years)	4.0	4.0	3.9
Dividend yield			
Estimated forfeitures	7.5%	4.3%	5.7%
Volatility	69.0%	60.5%	59.8%

The dividend yield of zero is based on the fact that we have never paid cash dividends and have no present intention to pay cash dividends. Expected volatility is based on the combination of historical volatility of the Company's common stock and the expected future volatility over the period commensurate with the expected life of the options. The risk-free interest rates are taken from the Daily Federal Yield Curve Rates as of the grant dates as published by the Federal Reserve and

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represent the yields on actively traded Treasury securities for terms equal to the expected term of the options. The expected term calculation for stock options is based on the observed historical option exercise behavior and post-vesting forfeitures of options by our employees. Assumptions related to the Employee Stock Purchase Plan are not presented as the related compensation expense amounts are insignificant. The Employee Stock Purchase Plan was suspended in February 2006.

***Research and Development***

Research and development costs consist primarily of salaries including stock compensation expense and related personnel costs, depreciation and product testing and are expensed as incurred.

***Advertising Costs***

Advertising costs, included in selling, general and administrative, are expensed as incurred. Advertising costs for the years ended December 31, 2009, 2008, and 2007 were \$71,000, \$76,000 and \$75,000, respectively.

***Shipping and Handling costs***

We include fees billed to customers and costs incurred for shipping and handling as a component of cost of sales.

***Income Taxes***

We account for deferred income taxes using the liability method, under which the expected future tax consequences of timing differences between the book and tax basis of assets and liabilities are recognized as deferred tax assets and liabilities. Valuation allowances are established when necessary to reduce net deferred tax assets when management estimates, based on available objective evidence, that it is more likely than not that the future income tax benefit represented by the net deferred tax asset will not be realized.

We adopted ASC topic 740, *Income Taxes* ("ASC 740") on January 1, 2007. ASC 740 seeks to reduce the diversity in practice associated with certain aspects of measurement and recognition in accounting for income taxes. ASC 740 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax provision that an entity takes or expects to take in a tax return. Additionally, ASC 740 provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosures, and transition. Under ASC 740, an entity may only recognize or continue to recognize tax positions that meet a "more likely than not" threshold. In accordance with our accounting policy, we recognize accrued interests and penalties related to unrecognized tax benefits as a component of income tax expense. The impact on adoption of ASC 740 is more fully described in Note 12.

***Comprehensive Income (Loss)***

We report comprehensive income or loss in accordance with the provisions of ASC topic 220 *Comprehensive Income* ("ASC 220") which establishes standards for reporting comprehensive income or loss and its components in the financial statements. The components of other comprehensive income (loss) consist of unrealized gains and losses on marketable securities and foreign currency translation adjustments. Comprehensive income (loss) is presented in the accompanying consolidated statements of

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stockholders' equity. The balance of accumulated other comprehensive income is as follows (in thousands):

	As of December 31,	
	2009	2008
Accumulated other comprehensive income:		
Unrealized gain (loss) on investments, net	\$ 173	\$ (1,579)
Cumulative translation adjustment	4,127	4,159
	\$ 4,300	\$ 2,580

	As of December 31,		
	2009	2008	2007
Net (loss) income attributable to AXT, Inc.	\$ (1,898)	\$ (689)	\$ 5,289
Other comprehensive income, net of tax:			
Change in foreign currency translation gain (loss), net of tax	(30)	1,831	1,750
Change in unrealized gain (loss) on available-for-sale investments, net of tax	1,750	(1,533)	(3)
Total other comprehensive income, net of tax	1,720	298	1,747
Comprehensive (loss) income	(178)	(391)	7,036
Less: Comprehensive income attributable to the noncontrolling interest	393	1,431	1,896
Comprehensive income attributable to AXT, Inc.	\$ (571)	\$ (1,822)	\$ 5,140

## Net Income (Loss) Per Share

Basic net income (loss) per share is computed using the weighted average number of common shares outstanding during the periods. Diluted net income (loss) per share is computed using the weighted average number of common shares outstanding and potentially dilutive common shares outstanding during the periods. Potentially dilutive common shares consist of common shares issuable upon the exercise of stock options. Potentially dilutive common shares are excluded in net loss periods, as their effect would be anti-dilutive.

## Recent Accounting Pronouncements

In September 2006, FASB issued ASC topic 820, *Fair Value Measurements and Disclosures* ("ASC 820"). ASC 820 provides guidance for using fair value to measure assets and liabilities and also responds to investors' requests for expanded information about the extent to which companies measure assets and liabilities at fair value, the information used to measure fair value and the effect of fair value measurements on earnings. ASC 820 applies whenever other standards require (or permit) assets or liabilities to be measured at fair value. ASC 820 does not expand the use of fair value in any new circumstances. The Company adopted ASC 820 on January 1, 2008 for all financial assets and liabilities recognized or disclosed at fair value in its consolidated financial statements on a recurring basis (at least annually). In February 2008, the FASB amended ASC 820, providing a one year deferral for implementation of the standard for non-recurring, non-financial assets and liabilities, except for items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). The Company adopted ASC 820 on January 1, 2009 for nonfinancial assets and liabilities. The Company's adoption of ASC 820 did not have a material impact on its nonfinancial assets and liabilities or on its financial position and results of operations, other than requiring additional disclosures. Refer to Note 2.

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In December 2007, the FASB issued ASC topic 805, *Business Combinations* ("ASC 805"). ASC 805 establishes revised principles and requirements for the recognition and measurement of assets and liabilities in a business combination. ASC 805 requires (i) recognition of 100% of the fair value of acquired assets, including goodwill, and assumed liabilities upon obtaining control, (ii) contingent consideration to be recorded at fair value at the acquisition date, (iii) transaction costs to be expensed as incurred, (iv) pre-acquisition contingencies to be accounted for at the acquisition date at fair value and (v) costs of a plan to exit an activity or terminate or relocate employees to be accounted for as post-combination costs. The provisions of this standard will apply to any acquisitions we complete on or after December 15, 2008. The Company adopted ASC 805 on January 1, 2009. There was no impact upon adoption of on our consolidated financial statements and its effects on future periods will depend on the nature and extent of business combinations that we complete, if any, in or after fiscal 2009.

In December 2007, the FASB issued ASC topic 810, *Consolidation* ("ASC 810"). ASC 810 clarifies the classification of noncontrolling interests in consolidated statements of financial position and the accounting for and reporting of transactions between the reporting entity and holders of such noncontrolling interests. The provisions of ASC 810 were applied to all noncontrolling interests prospectively, except for the presentation and disclosure requirements, which were applied retrospectively to all periods presented and have been disclosed as such in our consolidated financial statements herein. ASC 810 became effective for fiscal years beginning on or after December 15, 2008. The Company adopted ASC 810 on January 1, 2009. Upon adoption of ASC 810, the Company has recognized noncontrolling interests as equity in the consolidated balance sheets and has reflected net income attributable to noncontrolling interests in consolidated net income.

In March 2008, the FASB issued ASC topic 815, *Derivatives and Hedging* ("ASC 815"). ASC 815 requires expanded disclosures about (i) how and why an entity uses derivative instruments, (ii) how derivative instruments and related hedged items are accounted for ASC 815 and its related interpretations, and (iii) how derivative instruments and related hedged items affect an entity's financial position, financial performance and cash flows. ASC 815 was effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008. The Company adopted ASC 815 on January 1, 2009. We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In May 2008, the FASB issued ASC topic 470, *Debt, subtopic 20, Debt with Conversion and Other Options* ("ASC 470-20"). We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In June 2008, the FASB issued ASC topic 260, *Earnings per Share* ("ASC 260"). ASC 260 was issued to clarify that unvested share-based payment awards with a right to receive nonforfeitable dividends are participating securities and to provide guidance on how to allocate earnings to participating securities and compute basic earnings per share using the two-class method. ASC 260 was effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those years and requires retrospective application. The Company adopted ASC 260 on January 1, 2009 and applied it retrospectively to all periods presented. We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In April 2009, the FASB amended ASC topic 805, *Business Combinations* ("ASC 805"). ASC 805 requires that assets acquired and liabilities assumed in a business combination that arise from contingencies be recognized at fair value if fair value can be reasonably estimated. If fair value cannot be reasonably estimated, the asset or liability would generally be recognized in accordance with ASC topic 450, *Contingencies* ("ASC 450"). Further, the FASB removed the subsequent accounting guidance for assets and liabilities arising from contingencies from ASC topic 805, *Business Combinations*, subtopic 20, *Identifiable Assets and Liabilities and Any Noncontrolling Interest* ("ASC 805-20"). The requirements of this ASC carry forward without significant revision the guidance on contingencies of



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ASC 805 which was superseded by ASC 805-20. The ASC also eliminates the requirement to disclose an estimate of the range of possible outcomes of recognized contingencies at the acquisition date. For unrecognized contingencies, the FASB requires that entities include only the disclosures required by ASC 805. ASC 805-20 as modified is required to be applied prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. The adoption of ASC 805-20, as of January 1, 2009 had no impact on our consolidated financial statements and its effects on future periods will depend on the nature and extent of business combinations that we complete, if any, in or after fiscal 2009.

In April 2009, the FASB issued ASC topic 825, *Financial Instruments* ("ASC 825"). ASC 825 requires disclosures about fair value of financial instruments in interim reporting periods. Such disclosures were previously required only in annual financial statements. ASC 825 was effective for interim periods ending after June 15, 2009. The Company adopted ASC 825 in the second quarter of 2009 and has included the required disclosures in its consolidated financial statements. Refer to Note 2.

In April 2009, ASC 320, *Investments Debt and Equity Securities* ("ASC 320"). ASC 320 provides greater clarity about the credit and noncredit component of an other-than-temporary impairment event and more effectively communicates when an other-than-temporary impairment event has occurred. ASC 320 amends the other-than-temporary impairment model for debt securities. The impairment model for equity securities was not affected. Under ASC 320, an other-than-temporary impairment must be recognized through earnings if an investor has the intent to sell the debt security or if it is more likely than not that the investor will be required to sell the debt security before recovery of its amortized cost basis. This standard was effective for interim periods ending after June 15, 2009. The Company adopted ASC 825 in the second quarter of 2009. We have determined that there is no impact from adopting this statement on our consolidated financial statements.

In May 2009, the FASB issued ASC topic 855 *Subsequent Events* ("ASC 855"). The statement defines the period after the balance sheet date during which management shall evaluate transactions for potential recognition or disclosure in the financial statements, the circumstances in which an entity shall recognize a subsequent event in its financial statements and the disclosures an entity shall make about subsequent events. This topic was effective for interim or annual periods ending after June 15, 2009. The Company adopted the topic as required and its adoption did not impact the consolidated financial statements other than the required additional disclosures.

In June 2009, the FASB issued ASC topic 810 *Amendments of FASB Interpretation No. 46(R)* ("ASC 810"). The emphasis of this statement is to improve financial reporting by enterprises involved with variable interest entities. The statement also addresses the effects on certain provisions of FASB Interpretation No. 46 (revised December 2003), "*Consolidation of Variable Interest Entities*," as a result of the elimination of the qualifying special-purpose entity concept in SFAS No. 166 and the application of certain key provisions of FASB Interpretation No. 46(R). This topic is effective as of the beginning of the first annual reporting period after November 15, 2009 for interim periods within that first annual reporting period, and for interim and annual reporting periods thereafter. The adoption of ASC 810 is not expected to have a material impact on the Company's consolidated financial statements.

In June 2009, the FASB approved ASC topic 105, *Generally Accepted Accounting Principles* ("ASC 105", "Codification"), which establishes the Codification as the single source of authoritative nongovernmental U.S. GAAP. The Codification does not change current U.S. GAAP, but is intended to simplify user access to all authoritative U.S. GAAP by providing all the authoritative literature related to a particular topic in one place. All existing accounting standard documents will be superseded and all other accounting literature not included in the Codification will be considered nonauthoritative. The Codification combines all authoritative standards into a comprehensive, topically organized database. Since the Codification will completely replace existing standards, all future references to authoritative accounting literature references in the Company's financial statements will be in accordance with the

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Codification. The Codification is effective for interim and annual periods ending after September 15, 2009. The Company adopted ASC 105 in the third quarter of 2009. We have determined that there is no impact from adopting the Codification on our consolidated financial statements.

In various areas, including revenue recognition, stock option accounting, accounting standards and practices continue to evolve. Additionally, the SEC and the FASB's Emerging Issues Task Force continue to address revenues, stock option accounting related accounting issues. We believe that we are in compliance with all of the rules and related guidance as they currently exist. However, any changes to accounting principles generally accepted in the United States of America in these areas could impact the future accounting of our operations.

**Note 2. Cash, Cash Equivalents and Investments**

Our cash, cash equivalents and investments are classified as follows (in thousands):

	December 31, 2009				December 31, 2008			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Fair Value
<b>Classified as:</b>								
Cash	\$ 16,790	\$	\$	\$ 16,790	\$ 13,385	\$	\$	\$ 13,385
Cash equivalents:								
Money market fund	144			144	181			181
US Treasury and agency securities								
Total cash equivalents	144			144	181			181
Total cash and cash equivalents	16,934			16,934	13,566			13,566
Investments:								
US Treasury and agency securities								
Asset-backed securities								
Commercial paper								
Corporate bonds	18,298	171		18,469	22,348		(1,579)	20,769
Total investments	18,298	171		18,469	22,348		(1,579)	20,769
Total cash, cash equivalents and investments	\$ 35,232	\$ 171	\$	\$ 35,403	\$ 35,914	\$	\$ (1,579)	\$ 34,335
<b>Contractual maturities on investments:</b>								
Due within 1 year	\$ 18,298			\$ 18,469	\$ 4,060			\$ 3,822
Due after 1 through 5 years					18,288			16,947
	\$ 18,298			\$ 18,469	\$ 22,348			\$ 20,769

The investments include \$0 million and \$3.0 million recorded as restricted deposits on the consolidated balance sheets as of December 31, 2009 and 2008, respectively. The \$3.0 million restricted deposit was a drawdown of our line of credit facility, with an annual interest rate of approximately 4% as of December 31, 2008. The line of credit was fully paid down in the fourth quarter of 2009.

We manage our investments as a single portfolio of highly marketable securities that is intended to be available to meet our current cash requirements. We have no investments in auction rate securities. For the year ended December 31, 2009, we had \$0.2 million of gross realized loss on sales of our available-for-sale securities. For the year ended December 31, 2008, we had \$0.3 million of gross realized gains on sales of our available-for-sale securities.

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The gross unrealized losses related to our portfolio of available-for-sale securities were primarily due to a decrease in the fair value of debt securities as a result of an increase in interest rates during 2009. We have determined that the gross unrealized losses on our available-for-sale securities as of December 31, 2009 are temporary in nature. We reviewed our investment portfolio to identify and evaluate investments that have indications of possible impairment. Factors considered in determining

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whether a loss is temporary include the magnitude of the decline in market value, the length of time the market value has been below cost (or adjusted cost), credit quality, and our ability and intent to hold the securities for a period of time sufficient to allow for any anticipated recovery in market value. The following table provides a breakdown of our available-for-sale securities with unrealized losses as of December 31, 2009 and 2008 (in thousands):

	In Loss Position < 12 months		In Loss Position > 12 months		Total In Loss Position	
	Fair Value	Gross Unrealized (Loss)	Fair Value	Gross Unrealized (Loss)	Fair Value	Gross Unrealized (Loss)
<b>2009</b>						
Investments:						
Corporate bonds			\$ 993	\$ (4)	\$ 993	\$ (4)
Total in loss position			\$ 993	\$ (4)	\$ 993	\$ (4)

	In Loss Position < 12 months		In Loss Position > 12 months		Total In Loss Position	
	Fair Value	Gross Unrealized (Loss)	Fair Value	Gross Unrealized (Loss)	Fair Value	Gross Unrealized (Loss)
<b>2008</b>						
Investments:						
Corporate bonds	\$ 17,583	\$ (1,365)	\$ 3,186	\$ (214)	\$ 20,769	\$ (1,579)
Total in loss position	\$ 17,583	\$ (1,365)	\$ 3,186	\$ (214)	\$ 20,769	\$ (1,579)

## Investments in Privately-held Companies

We have made strategic investments in private companies located in China in order to gain access at a competitive cost to raw materials that are critical to our substrate business (see Note 5). As of December 31, 2009 and December 31, 2008, our investments in unconsolidated privately-held companies had a carrying value of \$5.0 million and \$4.1 million, respectively, and are included in "other assets" in the condensed consolidated balance sheets.

## Fair Value Measurements

On January 1, 2008, we adopted ASC topic 820, *Fair Value Measurements and Disclosures* ("ASC 820") which defines fair value, establishes a framework for using fair value to measure assets and liabilities, and expands disclosures about fair value measurements. ASC 820 applies whenever other statements require or permit assets or liabilities to be measured at fair value. ASC 820 applies to all financial assets and financial liabilities that are being measured and reported on a fair value basis and requires disclosure that establishes a framework for measuring fair value and expands disclosure about fair value measurements.

The following table summarizes our financial assets and liabilities measured at fair value on a recurring basis in accordance with ASC 820 as of December 31, 2009 (in thousands):

	Balance as of December 31, 2009	Quoted Prices in Active Markets of Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Assets:			
Short-term investments:			
Money market fund	\$ 144	\$ 144	
Corporate bonds	18,469		18,469
Total	\$ 18,613	\$ 144	\$ 18,469

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Liabilities	\$	\$	\$
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Our financial assets and liabilities are valued using market prices on both active markets (Level 1) and less active markets (Level 2). Level 1 instrument valuations are obtained from real-time quotes for transactions in active exchange markets involving identical assets. Level 2 instrument valuations are obtained from readily-available pricing sources for comparable instruments. As of December 31, 2009, we did not have any assets or liabilities without observable market values that would require a high level of judgment to determine fair value (Level 3 assets).

**Items Measured at Fair Value on a Nonrecurring Basis**

Certain assets that are subject to nonrecurring fair value measurements are not included in the table above. These assets include equity and cost method investments in private companies. We did not record other-than-temporary impairment charges for either of these investments during 2009.

**Note 3. Inventories, Net**

The components of inventory are summarized below (in thousands):

	As of December 31,	
	2009	2008
Inventories:		
Raw materials	\$ 12,051	\$ 17,863
Work in process	11,947	12,961
Finished goods	3,720	4,258
	\$ 27,718	\$ 35,082

**Note 4. Property, Plant and Equipment, Net**

The components of our property, plant and equipment are summarized below (in thousands):

	As of December 31,	
	2009	2008
Property, plant and equipment:		
Building	\$ 16,603	\$ 16,100
Machinery and equipment	25,413	26,225
Leasehold improvements	1,989	1,961
Construction in progress	2,287	2,207
	46,292	46,493
Less: accumulated depreciation and amortization	(25,439)	(24,309)
	\$ 20,853	\$ 22,184

Depreciation expense was \$3.1 million, \$2.2 million, and \$1.5 million for the years ended 2009, 2008, and 2007, respectively.

**Note 5. Investments in Privately-held Companies**

We have made strategic investments in private companies located in China in order to gain access to raw materials at a competitive cost that are critical to our substrate business.

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Our investments are summarized below (in thousands):

Company	Investment Balance		Accounting Method	Ownership Percentage
	As of December 31, 2009	2008		
Beijing JiYa Semiconductor Material Co., Ltd	\$ 996	\$ 996	Consolidated	46%
Nanjing Jin Mei Gallium Co., Ltd	592	592	Consolidated	83%
Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd	410	410	Consolidated	70%
Xilingol Tongli Germanium Co. Ltd	3,367	2,906	Equity	25%
Emeishan Jia Mei High Purity Metals Co., Ltd	866	843	Equity	25%

Our ownership of Beijing Ji Ya Semiconductor Material Co., Ltd. (JiYa) is 46%. We continue to consolidate JiYa as we have significant influence in management and have a majority control of the board. Our chief executive officer is chairman of the board, while our president of China operations and our vice president of China administration and our vice president of wafer production are members of the board. Our former chief executive officer, formerly a member of this board of directors, resigned from this board on March 17, 2009. Our former chief financial officer, formerly chairman of the board, and our former chief operating officer, a member of the board, both resigned from this board in August, 2009.

Our ownership of Nanjing Jin Mei Gallium Co., Ltd. (Jin Mei) is 83%. We continue to consolidate Jin Mei as we have significant influence in management and have a majority control of the board. Our chief executive officer is chairman of the board, while our president of China operations and our vice president of China administration are members of the board. Our former chief executive officer, formerly a member of this board of directors, resigned from this board on March 17, 2009. Our former chief operating officer, formerly the chairman of this board of directors, resigned from this board on August 12, 2009.

We have significant influence over management of Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd (BoYu), have a controlling financial interest of 70%, and have a majority control of the board. Our chief executive officer is chairman of the board and our president of China operations and our vice president of China administration are members of the board. Our former chief executive officer resigned as chairman of the board on March 17, 2009. Our former chief operating officer, a member of the board, resigned from this board on August 12, 2009.

Although we have representation on the boards of directors of each of these companies, the daily operations of each of these companies, are managed by local management and not by us. Decisions concerning their respective short term strategy and operations, any capacity expansion and annual capital expenditures, and decisions concerning sales of finished product, are made by local management without input from us.

The investment balances for the two companies accounted for under the equity method are included in other assets in the consolidated balance sheets and totaled \$4.2 million and \$3.7 million as of December 31, 2009 and 2008, respectively. We own 25% of the ownership interests in each of these companies. These two companies are not considered variable interest entities because:

both companies have sustainable businesses of their own;

our voting power is proportionate to our ownership interests;

we only recognize our respective share of the losses and/or residual returns generated by the companies if they occur; and

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we do not have controlling financial interest in, do not maintain operational or management control of, do not control the board of directors of, and are not required to provide additional investment or financial support to either company.

During 2009, 2008 and 2007, the three consolidated joint ventures generated \$1.2 million, \$3.8 million and \$4.4 million of income, respectively, of which \$0.4 million, \$1.4 million and \$1.9 million, respectively was allocated to minority interests, resulting in \$0.8 million, \$2.4 million and \$2.5 million, respectively to our net income. Our equity earnings from the two-minority owned joint ventures that are not consolidated are recorded as other income (loss), net and totaled \$0.5 million, \$0.9 million and \$1.0 million for 2009, 2008 and 2007, respectively. Undistributed retained earnings relating to our investments in these companies were \$12.4 million, \$11.1 million, and \$7.8 million, respectively as of December 31, 2009, 2008 and 2007. Net income recorded from our investments was \$1.3 million, \$3.3 million, and \$3.5 million for the years ended December 31, 2009, 2008 and 2007, respectively.

Our two 25% minority-owned joint ventures that are not consolidated had the following summarized income information (in thousands) for the twelve months ended December 31, 2009 and 2008, respectively.

	<b>Our 25% share of the Twelve Months Ended December 31,</b>		<b>Twelve Months Ended December 31,</b>	
	<b>2009</b>	<b>2008</b>	<b>2009</b>	<b>2008</b>
Net Sales	\$ 2,915	\$ 2,833	\$ 11,660	\$ 11,332
Gross profit	1,016	1,578	4,063	6,313
Operating income	441	1,008	1,763	4,030
Net income	484	884	1,936	3,535
			80	



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Our two 25% minority-owned joint ventures that are not consolidated had the following summarized balance sheet information (in thousands) as of December 31, 2009 and 2008, respectively.

	As of December 31,	
	2009	2008
<b>Current assets:</b>		
Cash	\$ 2,704	\$ 975
Accounts receivable, net	2,057	402
Notes receivable	163	267
Inventory	2,420	3,038
Other current assets	5,566	913
<b>Total current assets</b>	<b>12,910</b>	<b>5,595</b>
Property, plant and equipment, net	12,550	13,848
Other assets	1,089	597
<b>Total assets</b>	<b>\$ 26,549</b>	<b>\$ 20,040</b>
<b>Current liabilities:</b>		
Accounts payable	\$ 12	\$ 1,002
Advances from customers	264	263
Long term debt, current portion	2,783	729
Other payables	835	1,323
Dividend payable	1,688	2,663
<b>Total current liabilities</b>	<b>5,582</b>	<b>5,980</b>
Long term debt, net of current portion	4,101	
Other long term liabilities	161	269
<b>Total liabilities</b>	<b>9,844</b>	<b>6,249</b>
<b>Total stockholders' equity</b>	<b>16,705</b>	<b>13,791</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 26,549</b>	<b>\$ 20,040</b>

### Note 6. Other Investments

As of December 31, 2009 we maintain minority investments in three private companies. Our investments in these private companies are reviewed for other than temporary declines in value on a quarterly basis. These investments are classified as other assets in the consolidated balance sheets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Reasons for other than temporary declines in value include whether the related company would have insufficient cash flow to operate for the next twelve months, significant changes in the operating performance and changes in market conditions. As of December 31, 2009 and 2008, the minority investments totaled approximately \$0.7 million and \$0.4 million, respectively.

### Note 7. Impairment (recovery) on Assets Held for Sale

In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after deducting estimated commission



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and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. In the first quarter of 2008, we completed the sale of our U.S. property in Fremont, California for \$5.3 million in gross proceeds and \$5.1 million in net proceeds after deducting commissions and selling expenses. We recorded an \$83,000 impairment charge upon the sale of the property.

**Note 8. Debt**

***Credit Facility***

We have a credit facility maintained by us with a bank with a \$5.0 million line of credit. As of December 31, 2008, we had drawn down \$3.0 million which carried an annual interest rate of approximately 4%. We had pledged this amount as collateral for this facility. Accordingly, \$3.0 million of cash and short-term investments were restricted as of December 31, 2008. We paid down this \$3.0 million line of credit in the fourth quarter of 2009. Accordingly, as of December 31, 2009, we have an unused \$5.0 million line of credit at an annual interest rate of approximately 1.5% over the current LIBOR (London InterBank Offered Rate) fixed funding rate.

***Long-Term Debt***

The components of long-term debt are summarized below (in thousands):

	As of December 31,	
	2009	2008
Tenant improvement loan at 4.00%	\$ 496	\$ 569
Less current portion	(76)	(73)
	\$ 420	\$ 496

Maturities of long-term debt as of December 31, 2009 were as follows:

2010	\$ 76
2011	79
2012	82
2013	85
2014	89
Thereafter	85
	\$ 496

**Note 9. Stockholders' Equity**

In August 2004, we announced the adoption of a stock repurchase program in accordance with Rule 10b5-1 of the Securities Exchange Act of 1934 to provide for the repurchase of up to \$2 million of our common stock. This plan was extended for one year in July 2005. Repurchases were made from time to time in the open market during the twelve-month period ended July 31, 2006, at prevailing market prices using our own cash resources. As of December 31, 2009, we had 30,880,515 shares of common stock outstanding and no shares were repurchased in 2008 and 2009 under this program, which has now expired.

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The 883,000 shares of \$0.001 par value Series A preferred stock issued and outstanding as of December 31, 2009 and 2008, valued at \$3,532,000 are non-voting and non-convertible preferred stock with a 5.0% cumulative annual dividend rate payable when declared by the board of directors and \$4 per share liquidation preference over common stock, and must be paid before any distribution is made to common stockholders. These preferred shares were issued to Lyte Optronics, Inc. stockholders in connection with the completion of our acquisition of Lyte Optronics, Inc. on May 28, 1999.

**Note 10. Employee Benefit Plans**

***Stock Option Plans and Equity Incentive Plans***

In July 1997, our board of directors approved the 1997 Stock Option Plan ("1997 Plan"), which provides for the grant of incentive and non-qualified stock options to our employees, consultants and directors. Under the 1997 Plan, 5,423,583 shares of common stock have been authorized for issuance. Options granted under the 1997 Plan are generally for periods not to exceed ten years (five years if the option is granted to a 10% stockholder) and are granted at the fair market value of the stock at the date of grant as determined by the board of directors. Options granted under the 1997 Plan generally vest 25% at the end of one year and 2.1% each month thereafter, with full vesting after four years.

In May 2007, our shareholders approved our 2007 Equity Incentive Plan (the "2007 Plan"). The 2007 Plan is a restatement of the 1997 Plan which was scheduled to expire in 2007. The share reserve of the 1997 Plan became the reserve of the 2007 Plan, together with 1,300,000 additional shares approved for issuance under the 2007 Plan. As of December 31, 2007, approximately 2.5 million shares remained available for grant under the 2007 Plan. Awards may be made under the 2007 Plan of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance units, deferred compensation awards and other stock-based awards. Stock options and stock appreciation rights awarded under the 2007 Plan may not be repriced without stockholder approval. Stock options and stock appreciation rights may not be granted below fair market value. Stock options or stock appreciation rights generally shall not be fully vested over a period of less than three years from the date of grant and cannot be exercised more than 10 years from the date of grant. Restricted stock, restricted stock units, and performance awards generally shall not vest faster than over a three-year period (or a twelve-month period if vesting is based on a performance measure). In December 2008, the 2007 Plan was amended to comply with the applicable requirements under Section 409A of the Internal Revenue Code.

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The following summarizes our stock option activity under the 1997 Plan and the 2007 Plan, and the related weighted average exercise price within each category for each of the years ended December 31, 2007, 2008, and 2009 (in thousands, except per share data):

	Available for Grant	Number of Options Outstanding	Weighted- average Exercise Price	Weighted- average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Balance as of December 31, 2006	1,913	2,728	\$ 2.51	6.37	\$ 7,091
Additional shares authorized	1,300				
Plan shares expired	(124)				
Granted	(354)	354	5.89		
Exercised		(461)	1.95		
Canceled	144	(144)	5.04		
Balance as of December 31, 2007	2,879	2,477	2.95	6.93	\$ 8,858
Plan shares expired	(34)				
Granted	(413)	413	1.60		
Exercised		(92)	1.85		
Canceled	34	(34)	7.00		
Balance as of December 31, 2008	2,466	2,764	2.74	6.61	\$ 92
Plan shares expired	(131)				
Granted	(789)	789	1.87		
Exercised		(247)	1.42		
Canceled	426	(426)	3.73		
Balance as of December 31, 2009	1,972	2,880	\$ 2.46	5.70	\$ 3,850
Options vested and expected to vest as of December 31, 2009		2,759	\$ 2.49	5.53	\$ 3,688
Options exercisable as of December 31, 2009		1,900	\$ 2.64	3.77	\$ 2,567

The options outstanding and exercisable as of December 31, 2009 were in the following exercise price ranges (in thousands, except per share data):

Range of Exercise Price	Options Outstanding as of December 31, 2009			Options Vested and Exercisable as of December 31, 2009		
	Shares	Weighted-average Exercise Price	Weighted-average Remaining Contractual Life	Shares	Weighted-Average Exercise Price	
\$1.17 - \$1.18	340	\$ 1.17	2.59	340	\$ 1.17	
\$1.22 - \$1.33	310	\$ 1.31	5.09	310	\$ 1.31	
\$1.34 - \$1.34	7	\$ 1.34	5.80	7	\$ 1.34	
\$1.38 - \$1.38	305	\$ 1.38	3.68	305	\$ 1.38	
\$1.40 - \$1.40	1	\$ 1.40	5.20	1	\$ 1.40	
\$1.59 - \$1.59	576	\$ 1.59	7.81	159	\$ 1.59	
\$1.86 - \$1.98	44	\$ 1.89	4.75	44	\$ 1.89	
\$2.04 - \$2.04	489	\$ 2.04	9.82	0	\$ 0.00	
\$2.19 - \$2.19	313	\$ 2.19	2.89	313	\$ 2.19	
\$3.11 - \$41.5	495	\$ 6.43	4.78	421	\$ 6.54	
	2,880	\$ 2.46	5.70	1,900	\$ 2.64	

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The total intrinsic value of options exercised for the years ended December 31, 2009, 2008 and 2007 were \$0.1 million, \$0.3 million and \$1.4 million, respectively. Cash received from option exercises for the years ended December 31, 2009, 2008 and 2007 were \$0.4 million, \$0.2 million, and \$0.9 million, respectively.

As of December 31, 2008 and 2007, options to purchase 1,914,000 shares and 1,638,000 shares at weighted average exercise prices of \$2.58 and \$2.56 per share were vested and exercisable, respectively.

***Restricted stock awards***

A summary of activity related to restricted stock awards for the year ended December 31, 2009 is presented below:

	Shares	Weighted-Average Grant Date Fair Value
Non-vested restricted stock shares outstanding as of December 31, 2007	23,480	\$ 4.26
Restricted stock shares granted	62,892	\$ 1.59
Restricted stock shares vested	(7,828)	\$ 4.26
Non-vested restricted stock shares outstanding as of December 31, 2008	78,544	\$ 2.12
Restricted stock shares granted	120,908	\$ 0.88
Restricted stock shares vested	(28,792)	\$ 2.32
Non-vested restricted stock shares outstanding as of December 31, 2009	170,660	\$ 1.21

As of December 31, 2009, we had \$161,000 of unrecognized compensation expense, net of forfeitures, related to restricted stock awards, which will be recognized over the weighted average period of 2.12 years.

***Retirement Savings Plan***

We have a 401(k) Savings Plan ("Savings Plan") which qualifies as a thrift plan under Section 401(k) of the Internal Revenue Code. All full-time U.S. employees are eligible to participate in the Savings Plan after 90 days from the date of hire. In 2006 we amended the savings plan to allow all full-time participants (as defined) to contribute up to 10% of their earnings to the Savings Plan with a discretionary matching amount provided by us. Our contributions to the Savings Plan were \$0.5 million, \$0.4 million, and \$0.4 million for the years ended December 31, 2009, 2008 and 2007, respectively.

**Note 11. Guarantees*****Indemnification Agreements***

We enter into standard indemnification arrangements in the ordinary course of business. Pursuant to these arrangements, we indemnify, hold harmless, and agree to reimburse the indemnified parties for losses suffered or incurred by the indemnified party, generally their business partners or customers, in connection with any U.S. patent, or any copyright or other intellectual property infringement claim by any third party with respect to our products. The term of these indemnification agreements is generally perpetual anytime after the execution of the agreement. The maximum potential amount of future payments we could be required to make under these agreements is unlimited. We have never incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, we believe the estimated fair value of these agreements is minimal.

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We have entered into indemnification agreements with our directors and officers that may require us to indemnify our directors and officers against liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful misconduct of a culpable nature; to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified; and to obtain directors' and officers' insurance if available on reasonable terms, which we currently have in place.

**Product Warranty**

We warrant our products for a specific period of time, generally twelve months, against material defects. We provide for the estimated future costs of warranty obligations in cost of sales when the related revenue is recognized. The accrued warranty costs represent the best estimate at the time of sale of the total costs that we expect to incur to repair or replace product parts, which fail while still under warranty. The amount of accrued estimated warranty costs are primarily based on historical experience as to product failures as well as current information on repair costs. On a quarterly basis, we review the accrued balances and update the historical warranty cost trends. The following table reflects the change in our warranty accrual during 2009 and 2008 (in thousands):

	Years Ended December 31,	
	2009	2008
Beginning accrued warranty and related costs	\$ 1,640	\$ 1,030
Charged to cost of revenue	472	1,022
Actual warranty expenditures	(1,030)	(412)
Ending accrued warranty and related costs	\$ 1,082	\$ 1,640

**Note 12. Income Taxes**

Consolidated (loss) income before provision for income taxes includes non-U.S. income of approximately \$3.3 million, \$4.8 million and \$4.5 million for the years ended December 31, 2009, 2008 and 2007, respectively. The components of the provision (benefit) for income taxes are summarized below (in thousands):

	Years Ended December 31,		
	2009	2008	2007
Current:			
Federal	\$ (68)	\$	\$
State	(38)	52	9
Foreign	577	971	719
Total current	471	1,023	728
Deferred:			
Federal			
State			
Total deferred			
Total net provision for income taxes	\$ 471	\$ 1,023	\$ 728

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A reconciliation of the effective income tax rates and the U.S. statutory federal income tax rate is summarized below:

	Years Ended December 31,		
	2009	2008	2007
Statutory federal income tax rate	35.0%	35.0%	35.0%
State income taxes, net of federal tax benefits	2.4	1.9	0.1
Change in valuation allowance	(61.5)	60.1	(3.8)
Stock compensation	(13.8)	8.6	1.6
Foreign rate differences	56.9	(71.9)	(19.7)
Dividend from PRC investee	(86.7)	38.1	
Net loss from privately-held PRC investments	16.4	(17.5)	(4.2)
Other	5.7	3.6	0.2
Effective tax rate	(45.6)%	57.9%	9.2%

Deferred tax assets and liabilities are summarized below (in thousands):

	As of December 31,	
	2009	2008
Deferred tax assets:		
Net operating loss	\$ 50,362	\$ 49,737
Accruals and reserves not yet deductible	3,805	3,988
Credits	1,787	1,944
	55,954	55,669
Deferred tax liabilities:		
Unrepatriated foreign earnings	(1,239)	(1,239)
	(1,239)	(1,239)
Net deferred tax assets	54,715	54,430
Valuation allowance	(54,715)	(54,430)
Net deferred tax assets	\$	\$

As of December 31, 2009, we have federal and state net operating loss carryforwards of approximately \$142.4 million and \$41.0 million, respectively, which will expire beginning in 2022 and 2015, respectively. In addition, we have federal tax credit carryforwards of approximately \$1.6 million, which will expire beginning in 2019. We also have state tax credit carryforwards of approximately \$355,000, of which \$1,000 is manufacturing investment credit that will expire beginning in 2011.

The deferred tax assets valuation allowance as of December 31, 2009 is attributed to U.S. federal, and state deferred tax assets, which result primarily from future deductible accruals, reserves and tax depreciation expense, net operating loss carryforwards, and tax credit carryforwards. The Company believes that, based on a number of factors, the available objective evidence creates sufficient uncertainty regarding the realizability of the deferred tax assets such that a full valuation allowance has been recorded. These factors include the Company's history of losses, and the lack of carryback capacity to realize deferred tax assets. The valuation allowance increased by \$0.3 million, increased by \$0.8 million, and increased by \$3.7 million, for the years ended December 31, 2009, 2008 and 2007, respectively.

Our consolidated subsidiaries in China have been granted various tax holidays since 2000. Benefits under the tax holidays vary by jurisdiction. Some of our consolidated subsidiaries' tax holidays have expired on December 31, 2007.



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In accordance with Section 382 of the Internal Revenue Code, the amounts of and benefits from net operating loss and tax credit carryforwards may be impaired or limited in certain circumstances. Events which cause limitations in the amount of net operating losses or credits that we may utilize in any one year include, but are not limited to, a cumulative ownership change of more than 50% as defined, over a three year period.

As a result of the implementation of Interpretation 48, we recognized \$16.4 million in the liability for unrecognized tax benefits. Of this amount, none was accounted for as a reduction to the January 1, 2007 balance of retained earnings. The amount decreased tax loss carryforwards in the U.S., which are fully offset by a valuation allowance.

We recognize interest and penalties related to uncertain tax positions in income tax expense. Income tax expense for the year ended December 31, 2009 includes no interest and penalties. As of December 31, 2009, we have no accrued interest and penalties related to uncertain tax positions.

We file income tax returns in the U.S. federal, various states and foreign jurisdictions. We have substantially concluded all U.S. federal and state income tax matters through December 31, 2008.

A reconciliation of the beginning and ending amount of the gross unrecognized tax benefits is as follows (in thousands):

Gross unrecognized tax benefits balance as of December 31, 2008	\$ 16,403
Add:	
Additions based on tax positions related to the current year	
Additions for tax positions of prior years	
Gross unrecognized tax benefits balance as of December 31, 2009	\$ 16,403

Excluding the effects of recorded valuation allowances for deferred tax assets, \$16.4 million of the unrecognized tax benefit would favorably impact the effective tax rate in future periods if recognized.

Table of Contents**Note 13. Net income (loss) per Share**

A reconciliation of the numerators and denominators of the basic and diluted net income (loss) per share calculations is as follows (in thousands, except per share data):

	Years Ended December 31,		
	2009	2008	2007
<b>Numerator:</b>			
Net income (loss) attributable to AXT, Inc	\$ (1,898)	\$ (689)	\$ 5,289
Less: Preferred stock dividends	(177)	(177)	(177)
Net income (loss) to common stockholders	\$ (2,075)	\$ (866)	\$ 5,112
<b>Denominator:</b>			
Denominator for basic net income (loss) per share weighted average common shares	30,500	30,400	30,035
<b>Effect of dilutive securities:</b>			
Common stock options			1,310
Restricted stock awards			3
Denominator for dilutive net income (loss) per share	30,500	30,400	31,348
<b>Basic net income (loss) per share:</b>			
Net income (loss) from attributable to AXT, Inc	\$ (0.07)	\$ (0.03)	\$ 0.17
Net income (loss) to common stockholders	\$ (0.07)	\$ (0.03)	\$ 0.17
<b>Diluted net income (loss) per share:</b>			
Net income (loss) attributable to AXT, Inc	\$ (0.07)	\$ (0.03)	\$ 0.16
Net income (loss) to common stockholders	\$ (0.07)	\$ (0.03)	\$ 0.16
<b>Options excluded from diluted net income (loss) per share as the impact is anti-dilutive</b>			
	2,880	2,764	360
<b>Restricted stock excluded from diluted net income (loss) per share as the impact is anti-dilutive</b>			
	171	79	

**Note 14. Segment Information and Foreign Operations*****Segment Information***

We operate in one segment for the design, development, manufacture and distribution of high-performance compound semiconductor substrates and sale of materials. In accordance with ASC topic 280, *Segment Reporting* (formerly known as SFAS No. 131, "Disclosures about Segments of an Enterprise and Related Information,") our chief operating decision-maker has been identified as the principal executive officer, who reviews operating results to make decisions about allocating resources and assessing performance for the company. Since we operate in one segment, all financial segment and product line information can be found in the consolidated financial statements.



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### Product Type

The following table represents revenue amounts (in thousands) by type:

	Years Ended December 31,		
	2009	2008	2007
Product type:			
GaAs	\$ 41,054	\$ 49,610	\$ 40,219
InP	2,375	1,935	1,916
Ge	5,440	4,248	2,225
Raw materials	6,440	17,232	13,790
Other	55	50	53
	\$ 55,364	\$ 73,075	\$ 58,203

### Geographical Information

The following table represents revenue amounts (in thousands) reported for products shipped to customers in the corresponding geographic region:

	Years Ended December 31,		
	2009	2008	2007
Product revenue:			
North America*	\$ 10,701	\$ 19,181	\$ 11,839
Europe	10,489	14,524	9,930
Japan	7,777	14,685	13,280
Taiwan	10,453	7,806	9,329
Asia Pacific (excluding Japan and Taiwan)	15,944	16,879	13,825
	\$ 55,364	\$ 73,075	\$ 58,203

\*

Primarily the United States

Long-lived assets consist primarily of property, plant and equipment, and are attributed to the geographic location in which they are located. Long-lived assets by geographic region were as follows (in thousands):

	As of December 31,		
	2009	2008	2007
Long-lived assets:			
United States of America	\$ 661	\$ 867	\$ 149
China	20,192	21,317	15,837
	\$ 20,853	\$ 22,184	\$ 15,986

### Note 15. Foreign Exchange Contracts and Transaction Gains/Losses

As of December 31, 2009, and 2008, we had no outstanding commitments with respect to foreign exchange contracts.

We incurred foreign currency transaction exchange gains (losses) of (\$76,000), \$2,000, and \$(320,000) for the years ended December 31, 2009, 2008, and 2007, respectively.



Table of Contents**Note 16. Related Party Transactions**

Our Related Party transactions Policy seeks to prohibit all conflicts of interest in transactions between the Company and related parties, unless they have been approved by the Board of Directors of the Company. This policy applies to all employees and directors of the Company, our subsidiaries and our joint ventures. Our executive officers retain board seats on the Board of Directors of the companies in which we have invested in our China joint ventures. See Note 5 for further details.

**Note 17. Commitments and Contingencies***Legal Matters*

The Company is subject to legal proceedings and claims, either asserted or unasserted, that arise in the ordinary course of business. While the outcome of these proceedings and claims cannot be predicted with certainty, management does not believe that the outcome of any of these legal matters will have a material adverse effect on the Company's consolidated financial position, results of operations or cash flows.

*Leases*

We lease certain office space, manufacturing facilities and property under long-term operating leases expiring at various dates through November 2015. On July 2, 2008, we entered into a new lease agreement with the landlord of the facility at 4281 Technology Drive, Fremont, California with approximately 27,760 square feet. The new lease commenced December 1, 2008 for a term of seven years, with an option by us to cancel the new lease after five years, upon forfeiture of the security deposit and payment of one-half of the fifth year's rent. Total rent expenses under these operating leases were \$0.3 million, \$1.7 million (including a \$0.7 million forfeiture of rental deposit in terminating the old lease), and \$0.5 million for the years ended December 31, 2009, 2008 and 2007, respectively, which were net of sublease income of \$0.0 million, \$0.3 million and \$0.2 million, respectively. Our sublease income was terminated in December 2008. Total minimum lease payments under these leases as of December 31, 2009 are summarized below (in thousands):

	<b>Lease Payment</b>
2010	\$ 309
2011	277
2012	280
2013	288
2014	300
Thereafter	286
	\$ 1,740

*Purchase Obligations*

Through the normal course of business, we purchase or place orders for the necessary materials of our products from various suppliers and we commit to purchase products where it may incur a penalty if the agreement was canceled. Our purchase agreement to purchase eighteen thousand kilograms of gallium was terminated on December 31, 2008. As of December 31, 2009 we do not have any material purchase obligations.

Table of Contents**Note 18. Unaudited Quarterly Consolidated Financial Data**

	Quarter			
	First	Second	Third	Fourth
	(in thousands, except per share data)			
<b>2008:</b>				
Revenue	\$ 19,634	\$ 19,932	\$ 17,863	\$ 15,646
Gross profit	6,221	6,444	4,537	758
Net income (loss) attributable to AXT, Inc	1,959	737	(1,014)	(2,371)
Net income (loss) attributable to AXT, Inc per share, basic	\$ 0.06	\$ 0.02	\$ (0.03)	\$ (0.08)
Net income (loss) attributable to AXT, Inc per share, diluted	\$ 0.06	\$ 0.02	\$ (0.03)	\$ (0.08)
<b>2009:</b>				
Revenue	\$ 7,654	\$ 13,055	\$ 16,819	\$ 17,836
Gross profit	(237)	2,516	5,538	6,052
Net income (loss) attributable to AXT, Inc	(5,516)	(1,280)	2,121	2,777
Net income (loss) attributable to AXT, Inc per share, basic	\$ (0.18)	\$ (0.04)	\$ 0.07	\$ 0.09
Net income (loss) attributable to AXT, Inc per share, diluted	\$ (0.18)	\$ (0.04)	\$ 0.07	\$ 0.09

**Note 19. Restructuring Charge**

During the first quarter of 2009, we reduced the workforce at our Fremont and Beijing facilities by approximately 11 positions that were no longer required to support certain production and administrative operations. This measure was being taken as part of our 2009 operating plan. Accordingly, we recorded a restructuring charge of \$507,000 in March 2009 related to the reduction in force for severance-related expenses from the reduction in force, all of which were paid in the second quarter of 2009. We expect to save approximately \$1.3 million annually in payroll and related expenses. We had no restructuring charge in 2008 nor 2007.

**Note 20. Subsequent Event**

On January 29, 2010, we entered into a 5-year contract with AZUR SPACE Solar Power GmbH ("AZUR") pursuant to which we will supply germanium (Ge) substrates to AZUR.

Table of Contents**SIGNATURES**

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

AXT, Inc.

By: /s/ RAYMOND A. LOW

Raymond A. Low  
*Chief Financial Officer and Corporate Secretary*  
*(Principal Financial Officer)*

Date: March 22, 2010

**POWER OF ATTORNEY**

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Morris S. Young and Raymond A. Low, and each of them, his true and lawful attorney-in-fact and agent, with full power of substitution, each with power to act alone, to sign and execute on behalf of the undersigned any and all amendments to this Report on Form 10-K, and to perform any acts necessary in order to file the same, with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requested and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or their or his or her substitutes, shall do or cause to be done by virtue hereof.

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

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<u>/s/ MORRIS A. YOUNG</u> Morris A. Young	Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	March 22, 2010
<u>/s/ RAYMOND A. LOW</u> Raymond A. Low	Chief Financial Officer and Corporate Secretary <i>(Principal Financial Officer and Principal Accounting Officer)</i>	March 22, 2010
<u>/s/ JESSE CHEN</u> Jesse Chen	Chairman of the Board of Directors	March 22, 2010
<u>/s/ DAVID C. CHANG</u> David C. Chang	Director	March 22, 2010
<u>/s/ LEONARD LEBLANC</u> Leonard LeBlanc	Director	March 22, 2010



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AXT, Inc.

EXHIBITS

TO

FORM 10-K ANNUAL REPORT

For the Year Ended December 31, 2009

Exhibit Number	Description
3.1(3)	Restated Certificate of Incorporation
3.2(4)	Certificate of Designation, Preferences and Rights of Series A Preferred Stock (which is incorporated herein by reference to Exhibit 2.1 to the registrant's form 8-K dated May 28, 1999).
3.3(5)	Second Amended and Restated By Laws
4.1(5)	Rights Agreement dated April 24, 2001 by and between AXT, Inc. and ComputerShare Trust Company, Inc.
10.1(1)	Form of Indemnification Agreement for directors and officers.*
10.2(1)	1993 Stock Option Plan and forms of agreements thereunder.*
10.3(1)	1997 Stock Option Plan and forms of agreements thereunder.*
10.4(1)	1998 Employee Stock Purchase Plan and forms of agreements thereunder.*
10.5(2)	Purchase and Sale Agreement by and between Limar Realty Corp #23 and AXT, Inc. dated April 1998.
10.6(3)	Bond Purchase Contract between Dain Rauscher Incorporated and AXT, Inc. dated December 1, 1998.
10.7(3)	Remarketing Agreement between Dain Rauscher Incorporated and AXT, Inc. dated December 1, 1998.
10.8(6)	Reimbursement Agreement between Wells Fargo Bank National Association and AXT, Inc. dated April 7, 2003.
10.9(7)	Asset purchase agreements dated September 4, 2003 by and between Dalian Luming Science and Technology Group, Ltd and AXT, Inc. and by and between Lumei Optoelectronics Corp., AXT, Inc., Lyte Optronics, Inc., Beijing Tongmei Xtal Technology and Xiamen Advanced Semiconductor Co., Ltd.
10.10(8)	Offer letter to Mr. Philip C.S. Yin.*
10.11(9)	Offer letter to Mr. Minsheng Lin.*
10.12(10)	Employment agreement between the Company and Mr. Wilson W. Cheung.*
10.13(11)	Agreement respecting severance payment between the Company and Dr. Morris S. Young.*
10.14(12)	Employment agreement between the Company and Mr. Davis Zhang.*
10.15(13)	Purchase and Sale Agreement by and between Car West Auto Body, Inc., a California corporation and AXT, Inc. dated February 19, 2008.
10.16(14)	Lease agreement dated July 2, 2008 between AXT, Inc. and T. Drive Partners, L.P., a California partnership
10.17(15)	6-inch Supply Agreement dated December 31, 2008 between AXT, Inc. and IQE plc.**
10.18(15)	4-inch Supply Agreement dated December 31, 2008 between AXT, Inc. and IQE plc.**
10.19(17)	2007 Equity Incentive Plan (amended December 8, 2008).
10.20	Forms of agreements under the 2007 Equity Incentive Plan.*
10.21(18)	2009 Executive Bonus Plan.*
10.22	Employment Letter Agreement between the Company and Mr. Raymond Low.*
10.23	Employment Letter Agreement between the Company and Mr. Davis Zhang.*
10.24	Employment Letter Agreement between the Company and Mr. Robert G. Ochrym.*
10.25	2010 Executive Bonus Plan.*
21.1(16)	List of Subsidiaries.
23.1	Consent of Independent Registered Public Accounting Firm, Burr Pilger Mayer, Inc.
24.1	Power of Attorney (see signature page).

## Edgar Filing: AXT INC - Form 10-K

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Exhibit Number	Description
31.1	Certification by principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by principal financial officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification by Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification by Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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- (1) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Registration Statement on Form S-1 on March 17, 1998.
- (2) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Registration Statement on Amendment No. 2 to Form S-1 on May 11, 1998.
- (3) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Annual Report on Form 10-K for the year ended December 31, 1998.
- (4) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 8-K on June 14, 1999.
- (5) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 8-K on May 30, 2001.
- (6) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 10-Q on May 9, 2003.
- (7) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 10-Q on November 13, 2003.
- (8) Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on March 17, 2005.
- (9) Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on June 30, 2005.
- (10) Incorporated by reference to exhibit 99.2 to registrant's Form 8-K filed with the SEC on June 30, 2005.
- (11) Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on March 30, 2005.
- (12) Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on January 17, 2006.
- (13) Incorporated by reference to exhibit 10.22 to registrant's Form 8-K filed with the SEC on February 20, 2008.
- (14) Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 8-K on July 8, 2008.
- (15) Incorporated by reference to the exhibits as of the same numbers as filed with the SEC in our Form 8-K on January 5, 2009.
- (16)

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Incorporated by reference to exhibit 21.1 to registrant's Form S-3/A (333-135474) filed with the SEC on July 28, 2007.

(17)

Incorporated by reference to exhibit 10.31 to registrant's Form 10-K filed with the SEC on March 31, 2009.

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(18) Incorporated by reference to exhibit 10.32 to registrant's Form 10-K filed with the SEC on March 31, 2009.

\* Management contract or compensatory plan.

\*\* Confidential treatment has been requested of the SEC for portions of the exhibit.

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