AXT INC
Form 10-Q
November 07, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

for the quarterly period ended September 30, 2018

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	94-3031310
(State or other jurisdiction of Incorporation or organization)	(I.R.S. Employer Identification No.)

4281 Technology Drive, Fremont, California 94538

(Address of principal executive offices) (Zip code)

(510) 438-4700

(Registrant's telephone number, including area code)

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

Indicate by check-mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes   No

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

Large accelerated filer	Accelerated filer
Non-accelerated filer	Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check-mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at November 1, 2018
Common Stock, $0.001 par value	39,537,821

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements (unaudited)

AXT, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(Unaudited, in thousands, except per share data)

	September 30, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 18,035	$ 44,352
Short-term investments	21,910	20,032
Accounts receivable, net of allowances of $358 and $527 as of September 30, 2018 and December 31, 2017	23,308	22,778
Inventories	58,717	45,840
Prepaid expenses and other current assets	10,625	7,519
Total current assets	132,595	140,521
Long-term investments	1,906	12,576
Property, plant and equipment, net	74,754	46,530
Other assets	11,194	11,573
Total assets	$ 220,449	$ 211,200
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 12,344	$ 11,445
Accrued liabilities	12,776	11,149
Bank loan	291	—
Total current liabilities	25,411	22,594
Other long-term liabilities	320	289
Total liabilities	25,731	22,883
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock Series A, $0.001 par value; 2,000 shares authorized; 883 shares issued and outstanding as of September 30, 2018 and December 31, 2017 (Liquidation preference of $6,948 and $6,819 as of September 30, 2018 and December 31, 2017)	3,532	3,532
Common stock, $0.001 par value; 70,000 shares authorized; 39,538 and 39,413 shares issued and outstanding as of September 30, 2018 and	39	39

December 31, 2017		
Additional paid-in capital	233,522	231,679
Accumulated deficit	(44,122)	(54,837)
Accumulated other comprehensive income (loss)	(1,846)	3,407
Total AXT, Inc. stockholders’ equity	191,125	183,820
Noncontrolling interests	3,593	4,497
Total stockholders’ equity	194,718	188,317
Total liabilities and stockholders’ equity	$ 220,449	$ 211,200

See accompanying notes to condensed consolidated financial statements.

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AXT, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(Unaudited, in thousands, except per share data)

	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
Revenue	$ 28,626	$ 28,168	$ 80,165	$ 72,341
Cost of revenue	18,012	17,035	48,968	47,664
Gross profit	10,614	11,133	31,197	24,677
Operating expenses:				
Selling, general and administrative	4,615	4,484	13,824	12,219
Research and development	1,668	1,410	4,588	3,553
Total operating expenses	6,283	5,894	18,412	15,772
Income from operations	4,331	5,239	12,785	8,905
Interest income, net	133	122	414	334
Equity in earnings (loss) of unconsolidated joint ventures	6	(266)	(21)	(1,387)
Other income (expense), net	87	(349)	(179)	(403)
Income before provision for income taxes	4,557	4,746	12,999	7,449
Provision for income taxes	410	181	1,111	661
Net income	4,147	4,565	11,888	6,788
Less: Net (income) loss attributable to noncontrolling interests	(208)	(146)	(1,173)	226
Net income attributable to AXT, Inc.	$ 3,939	$ 4,419	$ 10,715	$ 7,014
Net income attributable to AXT, Inc. per common share:				
Basic	$ 0.10	$ 0.11	$ 0.27	$ 0.19
Diluted	$ 0.10	$ 0.11	$ 0.26	$ 0.18
Weighted-average number of common shares outstanding:				
Basic	39,008	38,499	39,000	36,999
Diluted	40,331	40,095	40,320	38,469

See accompanying notes to condensed consolidated financial statements.

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AXT, INC.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Unaudited, in thousands)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net income	$ 4,147	$ 4,565	$ 11,888	$ 6,788
Other comprehensive (loss) income, net of tax:				
Change in foreign currency translation (loss) gain, net of tax	(3,316)	1,135	(5,518)	2,457
Change in unrealized gain (loss) on available-for-sale investments, net of tax	59	27	(18)	(98)
Total other comprehensive (loss) income, net of tax	(3,257)	1,162	(5,536)	2,359
Comprehensive income	890	5,727	6,352	9,147
Less: Comprehensive loss (income) attributable to noncontrolling interests	31	(326)	(890)	(111)
Comprehensive income attributable to AXT, Inc.	$ 921	$ 5,401	$ 5,462	$ 9,036

See accompanying notes to condensed consolidated financial statements.

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AXT, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(Unaudited, in thousands)

	Nine Months Ended September 30,			
	2018		2017	
Cash flows from operating activities:				
Net income	$ 11,888		$ 6,788	
Adjustments to reconcile net income to net cash (used in) provided by operating activities:				
Depreciation and amortization	3,445		3,361	
Amortization of marketable securities premium	120		124	
Impairment charge on equity investee	—		313	
Stock-based compensation	1,392		961	
Realized gain on sale of available-for-sale securities	—		(77)	
Loss on disposal of equipment	25		—	
Loss from equity method investments, net	21		1,074	
Changes in operating assets and liabilities:				
Accounts receivable	(917)		(6,206)	
Inventories	(14,637)		(66)	
Prepaid expenses and other current assets	(3,492)		(587)	
Other assets	48		64	
Accounts payable	1,283		2,589	
Accrued liabilities	745	*	(107)	*
Other long-term liabilities, including royalties	(148)		(241)	
Net cash (used in) provided by operating activities	(227)		7,990	
Cash flows from investing activities:				
Purchases of property, plant and equipment	(34,289)		(16,557)	
Proceeds from sale of equipment	11		—	
Purchases of available-for-sale securities	(9,936)		(26,093)	
Proceeds from sales and maturities of available-for-sale securities	18,590		13,310	
Repayment of related party notes receivable	—		108	
Net cash used in investing activities	(25,624)		(29,232)	
Cash flows from financing activities:				
Proceeds from issuance of common stock and options exercised, net of issuance costs	264		33,384	
Considerations paid in cash to repurchase subsidiary shares from noncontrolling interests	(415)		—	
Proceeds from short-term loan	291		—	
Dividends paid by joint ventures to their minority shareholders	—		(465)	
Net cash provided by financing activities	140		32,919	
Effect of exchange rate changes on cash and cash equivalents	(606)		249	
Net increase (decrease) in cash and cash equivalents	(26,317)		11,926	

Cash and cash equivalents at the beginning of the period	44,352	36,152
Cash and cash equivalents at the end of the period	$ 18,035	$ 48,078
Supplemental disclosure of non-cash flow information:		
Consideration payable to repurchase subsidiary shares from noncontrolling interests, included in accrued liabilities	$ 1,192	—
Reduction of noncontrolling interests in excess of total consideration paid and payable in connection with the repurchase of subsidiaries shares from noncontrolling interests	$ 187	—

* Dividend accrued but not paid by one of our consolidated subsidiaries of $505 and $521 was included in accrued liabilities as of September 30, 2018 and 2017, respectively.

See accompanying notes to condensed consolidated financial statements.

AXT, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(Unaudited)

Note 1. Basis of Presentation

The accompanying condensed consolidated financial statements of AXT, Inc. (“AXT,” the “Company,” “we,” “us,” and “our” refer to AXT, Inc. and all of its consolidated subsidiaries) are unaudited, and have been prepared in accordance with accounting principles generally accepted in the United States of America for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, this interim quarterly financial report does not include all disclosures required by accounting principles generally accepted in the United States of America. In the opinion of our management, the unaudited condensed consolidated financial statements reflect all adjustments, consisting only of normal recurring adjustments, considered necessary to present fairly the financial position, results of operations and cash flows of AXT and our consolidated subsidiaries for all periods presented.

Certain reclassifications have been made to prior periods’ financial statements to conform to the current period presentation. These reclassifications did not result in any change in previously reported net income or total assets.

Our management has made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these condensed consolidated financial statements in conformity with accounting principles generally accepted in the United States of America. Actual results could differ materially from those estimates.

The results of operations for the three and nine months ended September 30, 2018 are not necessarily indicative of the results to be expected in the future or for the full fiscal year. It is recommended that these condensed consolidated financial statements be read in conjunction with our consolidated financial statements and the notes thereto included in our 2017 Annual Report on Form 10-K filed with the Securities and Exchange Commission (the “SEC”) on March 9, 2018 and our Quarterly Reports on Form 10-Q for the three months ended March 31, 2018 and June 30, 2018 filed with the SEC on May 4, 2018 and August 7, 2018, respectively.

The condensed consolidated financial statements include the accounts of AXT, our wholly-owned subsidiaries, Beijing Tongmei Xtal Technology Co., Ltd., Baoding Tongmei Xtal Technology Co., Ltd. and Chaoyang Tongmei Xtal Technology Co., and our majority-owned, or significantly controlled subsidiaries, Beijing JiYa Semiconductor Material Co., Ltd., Nanjing JinMei Gallium Co., Ltd. and Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd. All significant inter company accounts and transactions have been eliminated. Investments in business entities in which we do not have controlling interests, but have the ability to exercise significant influence over operating and financial policies (generally 20-50% ownership), are accounted for by the equity method. We have seven companies accounted for by the equity method. For subsidiaries that we consolidate, we reflect the portion we do not own as noncontrolling interests on our condensed consolidated balance sheets in stockholders' equity and in our condensed consolidated statements of operations.

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Note 2. Investments and Fair Value Measurements

Our cash and cash equivalents consist of cash and instruments with original maturities of less than three months. Our investments consist of instruments with original maturities of more than three months. As of September 30, 2018 and December 31, 2017, our cash, cash equivalents and investments are classified as follows (in thousands):

	September 30, 2018				December 31, 2017			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Fair Value
Classified as:								
Cash	$ 16,288	$ —	$ —	$ 16,288	$ 43,610	$ —	$ —	$ 43,610
Cash equivalents:								
Certificates of deposit 1	1,747	—	—	1,747	742	—	—	742
Total cash and cash equivalents	18,035	—	—	18,035	44,352	—	—	44,352
Investments (available-for-sale):								
Certificates of deposit 2	5,468	—	(31)	5,437	7,099	—	(24)	7,075
Corporate bonds	18,459	—	(80)	18,379	25,602	—	(69)	25,533
Total investments	23,927	—	(111)	23,816	32,701	—	(93)	32,608
Total cash, cash equivalents and investments	$ 41,962	$ —	$ (111)	$ 41,851	$ 77,053	$ —	$ (93)	$ 76,960
Contractual maturities on investments:								
Due within 1 year 3	$ 22,007			$ 21,910	$ 20,056			$ 20,032
Due after 1 through 5 years 4	1,920			1,906	12,645			12,576
	$ 23,927			$ 23,816	$ 32,701			$ 32,608

1. Certificates of deposit with original maturities of less than three months.
2. Certificates of deposit with original maturities of more than three months.
3. Classified as “Short-term investments” in our condensed consolidated balance sheets.
4. Classified as “Long-term investments” in our condensed consolidated balance sheets.

We manage our investments as a single portfolio of highly marketable securities that is intended to be available to meet our current cash requirements. Certificates of deposit and corporate bonds are typically held until maturity. Corporate equity securities have no maturity and may be sold at any time.

We previously held corporate equity securities consisting of common stock of GCS Holdings, Inc. (“GHI”) (previously Global Communication Semiconductors, Inc.), a Taiwan publicly-traded company. We began classifying GHI as an available-for-sale security in the second quarter of 2015 when we determined that there was sufficient trading volume in the exchange for the stock to be deemed readily marketable. During the three months ended March 31, 2017, we sold the remainder of our GHI stock. During the nine months ended September 30, 2017, our cash proceeds from sales of GHI stock were $125,000. Our cost was $48,000 and our gross realized gain from sales of GHI stock was $77,000. There were no GHI transactions in the three and nine months ended September 30, 2018.

The gross unrealized losses related to our portfolio of available-for-sale securities were primarily due to changes in interest rates and market and credit conditions of the underlying securities. We have determined that the gross unrealized losses on our available-for-sale securities as of September 30, 2018 are temporary in nature. We periodically review our investment portfolio to identify and evaluate investments that have indications of possible impairment. 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.

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A portion of our investments would generate a loss if we sold them on September 30, 2018. The following table summarizes the fair value and gross unrealized losses related to available-for-sale securities, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position as of September 30, 2018 (in thousands):

	In Loss Position < 12 months		In Loss Position > 12 months		Total In Loss Position	
As of September 30, 2018	Fair Value	Gross Unrealized (Losses)	Fair Value	Gross Unrealized (Losses)	Fair Value	Gross Unrealized (Losses)
Investments:						
Certificates of deposit	$ 2,625	$ (15)	$ 2,794	$ (16)	$ 5,419	$ (31)
Corporate bonds	11,155	(56)	7,224	(24)	18,379	(80)
Total in loss position	$ 13,780	$ (71)	$ 10,018	$ (40)	$ 23,798	$ (111)

The following table summarizes the fair value and gross unrealized losses related to available-for-sale securities, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position as of December 31, 2017 (in thousands):

	In Loss Position < 12 months		In Loss Position > 12 months		Total In Loss Position	
As of December 31, 2017	Fair Value	Gross Unrealized (Loss)	Fair Value	Gross Unrealized (Loss)	Fair Value	Gross Unrealized (Loss)
Investments:						
Certificates of deposit	$ 3,994	$ (16)	$ 2,342	$ (8)	$ 6,336	$ (24)
Corporate bonds	25,533	(69)	—	—	25,533	(69)
Total in loss position	$ 29,527	$ (85)	$ 2,342	$ (8)	$ 31,869	$ (93)

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 7). The investment balances for all of these companies, including minority investments indirectly in privately-held companies made by our consolidated subsidiaries, are accounted for under the equity method and included in “Other assets” in the condensed consolidated balance sheets and totaled $9.5 million and $9.8 million as of September 30, 2018 and December 31, 2017, respectively. As of September 30, 2018, there were seven companies accounted for under the equity method. There were no impairment charges in the three and nine months ended September 30, 2018. There were no impairment charges in the three months ended September 30, 2017. The nine months ended September 30, 2017 include an impairment charge of $313,000 for one of the joint ventures that produces gallium. During the first quarter of 2017, management determined that it was unlikely that this company would recover from the difficult pricing environment and we wrote the investment down to zero.

Fair Value Measurements

We invest primarily in money market accounts, certificates of deposits, corporate bonds and notes, and government securities. Accounting Standards Codification ("ASC") Topic 820, Fair Value Measurements and Disclosures ("ASC 820"), establishes three levels of inputs that may be used to measure fair value. Level 1 instrument valuations are obtained from real-time quotes for transactions in active exchange markets of the asset or identical assets. Level 2 instrument valuations are obtained from readily-available, observable pricing sources for comparable instruments. Level 3 instrument valuations are obtained from unobservable inputs in which there is little or no market data, which require us to develop our own assumptions. On a recurring basis, we measure certain financial assets and liabilities at fair value, primarily consisting of our short-term and long-term investments.

The type of instrument valued based on quoted market prices in active markets include our money market funds, which are generally classified within Level 1 of the fair value hierarchy. Other than corporate equity securities

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which are based on quoted market prices and classified as Level 1, we classify our available-for-sale securities including certificates of deposit and corporate bonds as having Level 2 inputs. The valuation techniques used to measure the fair value of these financial instruments having Level 2 inputs were derived from bank statements, quoted market prices, broker or dealer statements or quotations, or alternative pricing sources with reasonable levels of price transparency.

We place short-term foreign currency hedges that are intended to offset the potential cash exposure related to fluctuations in the exchange rate between the United States dollar and Japanese Yen. We measure the fair value of these foreign currency hedges at each month end and quarter end using current exchange rates and in accordance with generally accepted accounting principles. At quarter end any foreign currency hedges not settled are netted in “Accrued liabilities” on the condensed consolidated balance sheet and classified as Level 3 assets and liabilities. As of September 30, 2018, the net change in fair value from the placement of the hedge to settlement at each month end during the quarter had a de minimis impact to the consolidated results.

There were no changes in valuation techniques or related inputs in the three and nine months ended September 30, 2018. There have been no transfers between fair value measurements levels during the three and nine months ended September 30, 2018.

The following table summarizes our financial assets and liabilities measured at fair value on a recurring basis in accordance with ASC 820 as of September 30, 2018 (in thousands):

	Balance as of September 30, 2018	Quoted Prices in Active Markets of Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash equivalents and investments:				
Certificates of deposit	$ 7,184	$ —	$ 7,184	$ —
Corporate bonds	18,379	—	18,379	—
Total	$ 25,563	$ —	$ 25,563	$ —

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, 2017 (in thousands):

	Quoted Prices in	Significant

	Balance as of December 31, 2017	Active Markets of Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Assets:				
Cash equivalents and investments:				
Certificates of deposit	$ 7,817	$ —	$ 7,817	$ —
Corporate bonds	25,533	—	25,533	—
Total	$ 33,350	$ —	$ 33,350	$ —

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 investments in privately-held companies accounted for by the equity or cost method (See Note 7). There were no impairment charges in the three and nine months ended September 30, 2018. There were no impairment charges in the three months ended September 30, 2017. The nine months ended September 30, 2017 include an impairment charge of $313,000 for one of the joint ventures that produces gallium. During the first quarter of 2017, management determined that it was unlikely that this company would recover from the difficult pricing environment and we had written the investment down to zero. Except as mentioned, we did not record other-than-temporary impairment charges for the remainder of these investments during the three and nine months ended September 30, 2018 and 2017.

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Note 3. Inventories

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

	September 30, 2018	December 31, 2017
Inventories:		
Raw materials	$ 29,750	$ 23,554
Work in process	26,055	20,135
Finished goods	2,912	2,151
	$ 58,717	$ 45,840

As of September 30, 2018 and December 31, 2017, carrying values of inventories were net of inventory reserves of $14.4 million and $13.3 million, respectively, for excess and obsolete inventory and $40,000 and $291,000, respectively, for lower of cost or net realizable value reserves.

Note 4. Property, Plant and Equipment, Net

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

	September 30, 2018	December 31, 2017
Property, plant and equipment:		
Machinery and equipment, at cost	$ 47,875	$ 44,549
Less: accumulated depreciation and amortization	(41,034)	(40,845)
Building, at cost	39,374	32,461
Less: accumulated depreciation and amortization	(11,792)	(11,501)
Leasehold improvements, at cost	5,384	5,539
Less: accumulated depreciation and amortization	(4,411)	(4,288)
Construction in progress	39,358	20,615
	$ 74,754	$ 46,530

As of September 30, 2018, the balance of construction in progress was $39.4 million, of which $24.9 million was related to our buildings in our new Dingxing and Chaoyang locations, $5.2 million was for manufacturing equipment purchases and $9.3 million was from our construction in progress for our other consolidated subsidiaries. As of

December 31, 2017, the balance of construction in progress was $20.6 million, of which, $14.8 million was for our buildings in our new Dingxing location, $3.6 million was for manufacturing equipment purchases not yet placed in service, and $2.2 million was for our construction in progress at our other consolidated subsidiaries.

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Note 5. Accrued Liabilities

The components of accrued liabilities are summarized below (in thousands):

	September 30, 2018	December 31, 2017
Preferred stock dividends payable	2,901	2,901
Accrued compensation and related charges	2,570	3,205
Payable in connection with repurchase of subsidiaries shares	1,192	—
Advance from customers	648	924
Accrued professional services	618	583
Dividends payable by consolidated joint ventures	505	533
Other tax payable	352	395
Accrued income taxes	260	270
Accrued product warranty	228	133
Other personnel related costs	227	230
Current portion of royalty payments	144	575
Accrual for sales refund liabilities	37	—
Other accrued liabilities	3,094	1,400
	$ 12,776	$ 11,149

Note 6. Related Party Transactions

In August 2011, our consolidated joint venture, Beijing JiYa Semiconductor Material Co., Ltd. (“JiYa”), entered into a non-interest bearing note agreement in the amount of $1.6 million for a loan to one of its equity investment entities. The original term of the loan was for two years and ten months with three periodic principal payments required. After various amendments to the terms of the note, in December 2013, the parties agreed to delay all principal repayment until December 2017. In December 2016, we determined that this receivable was in substance an investment and began re-classifying this long term loan from “Related party notes receivable – long-term” to “Other assets” in our consolidated balance sheets. As of September 30, 2018 and December 31, 2017, we included $1.1 million and $1.2 million in “Other assets” in our condensed consolidated balance sheets, respectively.

JiYa also purchases raw materials from one of its equity investment entities for production in the ordinary course of business. The general manager of JiYa has a family member who has a 10% ownership position in this equity investment entity. As of September 30, 2018 and December 31, 2017, amounts payable of $1.9 million and $2.1 million were included in “Accounts payable” in our condensed consolidated balance sheets, respectively.

JiYa also sells raw materials to one of its equity investment entities for production in the ordinary course of business. As of September 30, 2018 and December 31, 2017, amounts receivable of $316,000 and $334,000, respectively, were included in “Accounts receivable” in our condensed consolidated balance sheets. During the three months ended December 31, 2016, we deemed the collection of the outstanding amount to be improbable and established an allowance in full. There have since been no additional sales made on credit to the customer and, as of September 30, 2018, the existing outstanding amount continues to be fully reserved.

Beginning in 2012, our consolidated joint venture, Nanjing JinMei Gallium Co., Ltd. (“JinMei”), is contractually obligated under an agency sales agreement to sell raw material on behalf of its equity investment entity. JinMei bills the customers and remits the receipts, net of its portions of sales commission, to this equity investment entity. For the three months ended September 30, 2018 and 2017, JinMei has recorded $20,000 and $2,000 income from agency sales, respectively. For the nine months ended September 30, 2018 and 2017, JinMei has recorded $21,000 and $3,000 income from agency sales, respectively, which were included in “Other (expense) income, net” in the condensed consolidated statements of operations.

In March 2012, our wholly-owned subsidiary, Beijing Tongmei Xtal Technology Co., Ltd. (“Tongmei”), entered into an operating lease for the land it owns with our consolidated joint venture, Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd. (“BoYu”). The lease agreement for the land of approximately 22,081 square feet commenced on January 1, 2012 for a term of 10 years with annual lease payments of $24,000 subject to a 5% increase at each third year anniversary. The annual lease payment is due by January 31st of each year.

Tongmei has paid certain amounts on behalf of Donghai County Dongfang High Purity Electronic Materials Co., Ltd. (“Dongfang”), its equity investment entity, to purchase materials. The original agreement was signed between Tongmei and Dongfang in 2014 and the date of repayment was set as December 31, 2015. In 2015, both parties agreed to delay the date of repayment to December 31, 2017. During 2017, the repayment of the full amount of principal and interest totaling $114,000 was received by our wholly owned subsidiary.

In April 2014, Tongmei loaned an additional $46,000 to Dongfang. The loan bears interest at 6.15% per annum and was due on December 31, 2017. During 2017, the repayment of the full amount of principal and interest totaling $55,000 was received by our wholly owned subsidiary.

Tongmei also purchases raw materials from Dongfang for production in the ordinary course of business. As of September 30, 2018 and December 31, 2017, there were no amounts payable to Dongfang.

Tongmei also purchases raw materials from one of our equity investment entities, Emei Shan Jiamei Materials Co. Ltd. (“Jiamei”), for production in the ordinary course of business. As of September 30, 2018 and December 31, 2017, amounts payable of $0 and $370,000, respectively, were included in “Accounts payable” in our condensed consolidated balance sheets.

Tongmei also purchases raw materials from one of our equity investment entities, Xilingol Tongli Germanium Refine Co. Ltd. (“Tongli”), for production in the ordinary course of business. As of September 30, 2018 and December 31, 2017, amounts payable of $0 and $219,000, respectively, were included in “Accounts payable” in our condensed consolidated balance sheets.

In July 2017, Tongmei, provided an inter-company loan to JinMei in the amount of $768,000 in preparation for the acquisition of the land use rights and the construction of a new building. The inter-company loan carries an interest rate of 4.9% per annum and is due in three installments between December 2021 and December 2023. JinMei is in the process of relocating its headquarters and manufacturing operations to an alternative location. Currently, JinMei has identified a site as a possible candidate and the estimated costs for the land use rights acquisition and facility construction are expected to be in the range of $2 million to $4 million.

In April 2016, our consolidated joint venture, BoYu, provided a personal loan of $177,000 to one of its executive employees. This loan is secured by the officer's shares in BoYu. The loan bears interest at 2.75% per annum. Principal and accrued interest are due on March 31, 2019. During the three months ended June 30, 2017, the repayment of the principal and interest totaling $180,000 was received by our consolidated joint venture. In November 2017, BoYu provided another personal loan of $318,000 to the same executive employee. The loan bears interest at 2.75% per annum. Principal and accrued interest are due on November 30, 2020. As of September 30, 2018 and December 31, 2017, the balances, including both principal and accrued interest, were $298,000 and $307,000, respectively, and included in "Other assets" in our condensed consolidated balance sheets.

On November 2, 2017, our consolidated joint venture, BoYu, raised additional capital in the amount of $2 million in cash from a third-party investor through the issuance of shares equivalent to 10% ownership of BoYu. This third-party investor is an immediate family member of the owner of one of BoYu's customers. For the three months ended September 30, 2018 and 2017, BoYu has recorded $37,000 and $226,000, respectively, in revenue from this customer. For the nine months ended September 30, 2018 and 2017, BoYu has recorded $1.4 million and $613,000, respectively, in revenue from this customer. As of September 30, 2018 and December 31, 2017, amounts receivable of $33,000 and $635,000, respectively, were included in "Accounts receivable" in our condensed consolidated balance sheets.

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Our Related Party Transactions Policy seeks to prohibit all conflicts of interest in transactions between related parties and us, unless they have been approved by our Board of Directors. This policy applies to all of our employees, directors, and our consolidated subsidiaries. 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 7 for further details.

Note 7. 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. We have six direct investments. Our consolidated subsidiaries have also made investments in private companies. We have four indirect investments. These companies form part of our overall supply chain.

The six direct investments are summarized below (in thousands):

	Investment Balance as of			
Company	September 30, 2018	December 31, 2017	Accounting Method	Ownership Percentage
Beijing JiYa Semiconductor Material Co., Ltd.	$ 3,331	$ 3,331	Consolidated	46 %
Nanjing JinMei Gallium Co., Ltd.	592	592	Consolidated	97 %
Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd.	1,346	1,346	Consolidated	63 %
	$ 5,269	$ 5,269		
Donghai County Dongfang High Purity Electronic Materials Co., Ltd.	$ 1,450	$ 1,473	Equity	46 %
Xilingol Tongli Germanium Co. Ltd.	2,811	3,190	Equity	25 %
Emeishan Jia Mei High Purity Metals Co., Ltd.	870	915	Equity	25 %
	$ 5,131	$ 5,578		

Our ownership of JiYa is 46%. We continue to consolidate JiYa as we are the founding and largest shareholder, appoint the general manager and controller and have the ability to exercise control in substance over the long-term strategic decisions made. Our Chief Executive Officer is chairman of the JiYa board and we have appointed one other representative, Davis Zhang, to serve on the board. Mr. Zhang was an executive officer of AXT for 27 years. Further, our Chief Financial Officer, Gary Fischer, is on the board of supervisors of JiYa.

Our ownership of JinMei is 97%. Before June 15, 2018, our ownership of JinMei was 83%. On June 15, 2018, we purchased a 12% ownership interest from one of the minority owners for $1.4 million. The $1.4 million is scheduled to be paid in two installments. On June 15, 2018, we paid the first installment of $163,000. The second installment of $1.2 million is scheduled to be paid after the completion of the relocation of JinMei's headquarters and manufacturing operations and was included in "Accrued liabilities" in our condensed consolidated balance sheets. As a result, our ownership of JinMei increased from 83% to 95%. In September 2018, we purchased a 2% ownership interest from one of the three remaining minority owners for $252,000. As a result, our ownership of JinMei increased from 95% to 97%. We continue to consolidate JinMei as we have a controlling financial interest and have majority control of the board. Our Chief Executive Officer is chairman of the JinMei board and we have appointed two other representatives to serve on the board.

Our ownership of BoYu is 63%. On November 2, 2017, BoYu raised additional capital in the amount of $2 million in cash from a third-party investor through the issuance of shares equivalent to 10% ownership of BoYu. As a result, our ownership of BoYu was diluted from 70% to 63%. We continue to consolidate BoYu as we have a controlling financial interest and have majority control of the board and, accordingly, no gain was recognized as a result of this equity transaction. Our Chief Executive Officer is chairman of the BoYu board and we have appointed two other representatives to serve on the board.

Although we have representation on the board 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, ordinary course of business capital expenditures and sales of finished products, are made by local management with regular guidance and input from us.

During the three months ended September 30, 2018 and 2017, the three consolidated joint ventures, before eliminating inter-company transactions, generated income of $1.3 million and an income of $860,000, respectively, of which a gain of $208,000 and a gain of $146,000, respectively, were allocated to noncontrolling interests, resulting in an income of $1.1 million and an income of $714,000 respectively, to our net income. During the nine months ended September 30, 2018 and 2017, the three consolidated joint ventures generated income of $4.8 million and income of $1.1 million, respectively, of which a gain of $1.2 million and a loss of $0.2 million respectively, were allocated to noncontrolling interests, resulting in an income of $3.7 million and an income of $1.3 million, respectively, to our net income.

For AXT's three direct minority investment entities that are not consolidated, the investment balances are included in "Other assets" in our condensed consolidated balance sheets and totaled $5.1 million and $5.6 million as of September 30, 2018 and December 31, 2017, respectively. We own 46% of the ownership interests in one of these companies and 25% in each of the other two companies. These three companies are not considered variable interest entities because:

- all three 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
- 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 any of these companies.

We also maintain four minority investments indirectly in privately-held companies through our consolidated joint ventures. JiYa holds three investments and JinMei holds one investment. These minority investments are accounted for under the equity method in the books of our consolidated joint ventures. As of September 30, 2018 and December 31, 2017, our consolidated joint ventures included these minority investments in "Other assets" in our condensed consolidated balance sheets with a carrying value of $4.4 million and $4.3 million, respectively.

There were no impairment charges in the three and nine months ended September 30, 2018. There were no impairment charges in the three months ended September 30, 2017. The nine months ended September 30, 2017 include an impairment charge of $313,000 for one of the joint ventures that produces gallium. During the first quarter of 2017, management determined that it is unlikely that this company will recover from the difficult pricing environment and we had wrote the investment down to zero.

AXT's three direct minority investment entities and the three minority investments of JiYa and the one minority investment of JinMei are not consolidated and are accounted for under the equity method. Excluding one fully impaired entity, the equity entities had the following summarized income information (in thousands) for the three and nine months ended September 30, 2018 and 2017.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net revenue	$ 8,017	$ 4,209	$ 24,366	$ 15,571
Gross profit	$ 2,141	$ 177	$ 5,477	$ 976
Operating income (loss)	$ 631	$ (1,054)	$ 767	$ (2,685)
Net income (loss)	$ 315	$ (1,130)	$ (422)	$ (3,653)

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Our portion, including impairment charges, from these seven minority investment entities that are not consolidated and are accounted for under the equity method was income of $6,000 and a loss of $266,000 for the three months ended September 30, 2018 and 2017, respectively. Our portion, including impairment charges, from these seven minority investment entities that are not consolidated and are accounted for under the equity method were a loss of $21,000 and a loss of $1.4 million for the nine months ended September 30, 2018 and 2017, respectively.

Note 8. Stockholders' Equity

Condensed Consolidated Statement of Changes in Stockholders' Equity

(in thousands)

	Preferred Stock	Common Stock	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	AXT, Inc. Stockholders' Equity	Noncontrolling Interests	Total Stockholders' Equity
Balance as of December 31, 2017	$ 3,532	$ 39	$ 231,679	$ (54,837)	$ 3,407	$ 183,820	$ 4,497	$ 188,317
Common stock options exercised	—	—	264	—	—	264	—	264
Purchase of subsidiary shares from noncontrolling interest			187			187	(1,794)	(1,607)
Stock-based compensation	—	—	1,392	—	—	1,392	—	1,392
Net income	—	—	—	10,715	—	10,715	1,173	11,888
Other comprehensive loss	—	—	—	—	(5,253)	(5,253)	(283)	(5,536)
Balance as of September 30, 2018	$ 3,532	$ 39	$ 233,522	$ (44,122)	$ (1,846)	$ 191,125	$ 3,593	$ 194,718

There were no reclassification adjustments from accumulated other comprehensive income for the three and nine months ended September 30, 2018 and 2017.

Stock Repurchase Program

On October 27, 2014, our Board of Directors approved a stock repurchase program pursuant to which we may repurchase up to $5.0 million of our outstanding common stock. These repurchases can be made from time to time in the open market and are funded from our existing cash balances and cash generated from operations. During 2015, we repurchased approximately 908,000 shares at an average price of $2.52 per share for a total purchase price of approximately $2.3 million under the stock repurchase program. No shares were repurchased during 2016 and 2017. During the three and nine months ended September 30, 2018, we did not repurchase any shares under the approved stock repurchase program. As of September 30, 2018, approximately $2.7 million remained available for future repurchases under this program. Currently, we do not plan to repurchase additional shares.

Note 9. Stock-Based Compensation

We account for stock-based compensation in accordance with the provisions of ASC Topic 718, Compensation-Stock Compensation ("ASC 718"), which established accounting for stock-based awards exchanged for employee services. 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 our stock compensation is accounted for as an equity instrument.

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The following table summarizes compensation costs related to our stock-based awards (in thousands, except per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Cost of revenue	$ 25	$ 7	$ 67	$ 22
Selling, general and administrative	361	280	1,098	788
Research and development	75	52	227	151
Total stock-based compensation	461	339	1,392	961
Tax effect on stock-based compensation	—	—	—	—
Net effect on net income	$ 461	$ 339	$ 1,392	$ 961

As of September 30, 2018, the unamortized compensation costs related to unvested stock options granted to employees under our stock option plan was approximately $1.2 million, net of estimated forfeitures of $141,000. These costs will be amortized on a straight-line basis over a weighted-average period of approximately 1.8 years and will be adjusted for subsequent changes in estimated forfeitures. We did not capitalize any stock-based compensation to inventory as of September 30, 2018 and December 31, 2017 due to the immateriality of the amount.

We estimate the fair value of stock options using the Black-Scholes valuation model, consistent with the provisions of ASC 718. There were no options granted in the three and nine months ended September 30, 2018. There were no options granted in the three months ended September 30, 2017. There were 60,000 options with a weighted-average grant date fair values of $2.76 per share granted in the nine months ended September 30, 2017. The fair values of our stock options granted to employees for nine months ended September 30, 2018 and 2017 were estimated using the following weighted-average assumptions:

	Nine Months Ended September 30, 2018		Nine Months Ended September 30, 2017	
Expected term (in years)	—		5.9	
Volatility	—	%	46.71	%
Expected dividend	—	%	—	%
Risk-free interest rate	—	%	2.08	%

The following table summarizes the stock option transactions during the nine months ended September 30, 2018 (in thousands, except per share data):

Stock Options	Number of Options Outstanding	Weighted-average Exercise Price	Weighted average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Balance as of January 1, 2018	2,666	$ 3.81	6.87	$ 13,149
Granted	—	—		
Exercised	(93)	2.83		
Canceled and expired	(4)	5.21		
Balance as of September 30, 2018	2,569	$ 3.84	6.19	$ 8,847
Options vested as of September 30, 2018 and unvested options expected to vest, net of forfeitures	2,553	$ 3.82	6.18	$ 8,822
Options exercisable as of September 30, 2018	1,862	$ 3.41	5.56	$ 6,979

The aggregate intrinsic value in the table above represents the total pretax intrinsic value, based on our closing price of $7.15 on September 30, 2018, which would have been received by the option holder had all option holders exercised their options on that date.

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Restricted stock awards

A summary of activity related to restricted stock awards for the nine months ended September 30, 2018 is presented below (in thousands, except per share data):

Stock Awards	Shares	Weighted-Average Grant Date Fair Value
Non-vested as of January 1, 2018	480	$ 7.13
Granted	35	$ 7.49
Vested	(49)	$ 6.19
Forfeited	(3)	$ 9.50
Non-vested as of September 30, 2018	463	$ 7.24

As of September 30, 2018, the unamortized compensation costs related to unvested restricted stock awards was approximately $2.5 million, which is to be amortized on a straight-line basis over a weighted-average period of approximately 1.3 years.

Note 10. Net Income Per Share

Basic net income per share is computed using the weighted-average number of common shares outstanding during the periods less shares of common stock subject to repurchase and non-vested stock awards. Diluted net income per share is computed using the weighted-average number of common shares outstanding and potentially dilutive common shares outstanding during the periods. The dilutive effect of outstanding stock options and restricted stock awards is reflected in diluted earnings per share by application of the treasury stock method. Potentially dilutive common shares consist of common shares issuable upon the exercise of stock options and vesting of restricted stock awards. Potentially dilutive common shares are excluded from the computation of weighted-average number of common shares outstanding in net loss years, as their effect would be anti-dilutive to the computation.

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

	Three Months Ended September 30,	Nine Months Ended September 30,

	2018	2017	2018	2017
Numerator:				
Net income attributable to AXT, Inc.	$ 3,939	$ 4,419	$ 10,715	$ 7,014
Less: Preferred stock dividends	(44)	(44)	(132)	(132)
Net income available to common stockholders	$ 3,895	$ 4,375	$ 10,583	$ 6,882
Denominator:				
Denominator for basic net income per share - weighted-average common shares	39,008	38,499	39,000	36,999
Effect of dilutive securities:				
Common stock options	1,207	1,416	1,196	1,283
Restricted stock awards	116	180	124	187
Denominator for dilutive net income per common shares	40,331	40,095	40,320	38,469
Net income attributable to AXT, Inc. per common share:				
Basic	$ 0.10	$ 0.11	$ 0.27	$ 0.19
Diluted	$ 0.10	$ 0.11	$ 0.26	$ 0.18
Options excluded from diluted net income per share as the impact is anti-dilutive	186	68	186	573
Restricted stock excluded from diluted net income per share as the impact is anti-dilutive	34	34	239	11

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The 883,000 shares of $0.001 par value Series A preferred stock issued and outstanding as of September 30, 2018 and December 31, 2017, 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 a $4 per share liquidation preference over common stock, which 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 11. Segment Information and Foreign Operations

Segment Information

We operate in one segment for the design, development, manufacture and distribution of high-performance compound and single element semiconductor substrates and sale of raw materials integral to these substrates. In accordance with ASC Topic 280, Segment Reporting, our chief operating decision-maker has been identified as our Chief 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 condensed consolidated financial statements.

Product Information

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Product Type:				
Substrates	$ 22,802	$ 22,377	$ 63,769	$ 58,095
Raw Materials and Others	5,824	5,791	16,396	14,246
Total	$ 28,626	$ 28,168	$ 80,165	$ 72,341

Geographical Information

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Geographical region:				
China	$ 10,268	$ 7,203	$ 26,271	$ 17,949
Taiwan	6,116	5,986	15,445	13,499
Europe (primarily Germany)	4,879	6,192	17,957	17,638
North America (primarily the United States)	2,967	2,159	7,052	5,909
Asia Pacific (excluding China, Taiwan and Japan)	2,334	2,934	6,399	7,650
Japan	2,062	3,694	7,041	9,696
Total	$ 28,626	$ 28,168	$ 80,165	$ 72,341

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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, net of depreciation, by geographic region were as follows (in thousands):

	As of September 30, 2018	December 31, 2017
Long-lived assets by geographic region, net of depreciation:		
North America	$ 542	$ 1,410
China	74,212	45,120
	$ 74,754	$ 46,530

Significant Customers

One customer, Landmark, represented 16% of our revenue for the three months ended September 30, 2018 while two customers, Landmark and Osram Opto, represented 16% and 10%, respectively, of our revenue for the three months ended September 30, 2017. Our top five customers, although not the same five customers for each period, represented 39% and 39% of our revenue for the three months ended September 30, 2018 and 2017, respectively.

One customer, Landmark, represented 13% of our revenue for the nine months ended September 30, 2018 while two customers, Landmark and Osram Opto, represented 12% and 11%, respectively, of our revenue for the nine months ended September 30, 2017. Our top five customers, although not the same five customers for each period, represented 36% and 37% of our revenue for the nine months ended September 30, 2018 and 2017, respectively.

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. Three customers accounted for 15%, 14% and 11% of our accounts receivable balance as of September 30, 2018, and one customer accounted for 12% of our accounts receivable balance as of December 31, 2017.

Note 12. Commitments and Contingencies

Indemnification Agreements

We have entered into indemnification agreements with our directors and officers that 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.

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Product Warranty

We provide warranties for 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 that 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 which is included in "Accrued liabilities" on the condensed consolidated balance sheets, during the three and nine months ended September 30, 2018 and 2017 (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Beginning accrued product warranty	$ 178	$ 130	$ 133	$ 251
Accruals for warranties issued	125	7	258	77
Adjustments related to pre-existing warranties including expirations and changes in estimates	(10)	18	(33)	(114)
Cost of warranty repair	(65)	(17)	(130)	(76)
Ending accrued product warranty	$ 228	$ 138	$ 228	$ 138

Contractual Obligations

We lease certain office space, warehouse facilities and equipment under long-term operating leases expiring at various dates through April 2023. The majority of our lease obligations relate to our lease agreement for the facility in Fremont, California with approximately 19,467 square feet. The term of the original lease for this facility would have expired in 2017. According to the lease agreement, we had an option to extend the term of the lease for an additional three years. In May 2017, we exercised this option and the lease was extended for an additional three year term. All terms of this lease otherwise remain the same and the term of this lease will expire in 2020. Under the terms of the lease agreement, in 2020, we will have the option to extend the term of the lease for an additional three years.

We entered into a royalty agreement with a competitor effective December 3, 2010 with a term of eight years, terminating December 31, 2018. We and our related companies are granted a worldwide, nonexclusive, royalty bearing, irrevocable license to certain patents for the term of the agreement. We shall pay up to $7.0 million of royalty payments over eight years that began in 2011 based on future royalty bearing sales. This royalty agreement contains a clause that allows us to claim a credit, starting in 2013, in the event that the royalty bearing sales for the year are lower than a pre-determined amount set forth in this agreement.

The following table summarizes our contractual obligations as of September 30, 2018 (in thousands):

	Payments due by period				
Contractual Obligations	Total	Less than 1 year	1-3 years	4-5 years	More than 5 years
Operating leases	$ 452	$ 193	$ 233	$ 26	$ —
Royalty agreement	144	144	—	—	—
Total	$ 596	$ 337	$ 233	$ 26	$ —

Land Purchase and Investment Agreement

We are in the process of relocating our gallium arsenide production line to Dingxing, China. In addition to a land rights and building purchase agreement that we entered into with a private real estate development company to acquire our new manufacturing facility, we also entered into a cooperation agreement with the Dingxing local government. In addition to pledging its full support and cooperation, the Dingxing local government will issue certain credits or rebates to us as we achieve certain milestones. We, in turn, agreed to hire local workers over time, pay taxes when due and eventually demonstrate a total investment of approximately $90 million in value, assets and capital. The investment will include cash

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paid for the land and buildings, cash on deposit in our name at local banks, the gross value of new and used equipment (including future equipment that might be used for indium phosphide and germanium substrates production), the deemed value for our customer list or the end user of our substrates (for example, the end users of 3-D sensing VCSELs (vertical cavity surface emitting lasers)), a deemed value for employment of local citizens, a deemed value for our proprietary process technology, other intellectual property, other intangibles and additional items of value. There is no timeline or deadline by which this must be accomplished, rather it is a good faith covenant entered into between AXT and the Dingxing local government. Further, there is no specific penalty contemplated if either party breaches the agreement. However, the agreement does state that each party has a right to seek from the other party compensation for losses. Under certain conditions, the Dingxing local government may purchase the land and building at the appraised value. We believe that such cooperation agreements are normal, customary and usual in China and that the future valuation is flexible. We have a similar agreement with the city of Kazuo, China, although on a smaller scale. The total investment targeted by AXT in Kazuo is approximately $15 million in value, assets and capital. In addition, BoYu has a similar agreement with the city of Kazuo. The total investment targeted by BoYu in Kazuo is approximately $8 million in value, assets and capital.

Purchase Obligations with Penalties for Cancellation

In the normal course of business, we issue purchase orders to various suppliers. In certain cases, we may incur a penalty if we cancel the purchase order. As of September 30, 2018, we do not have any outstanding purchase orders that will incur a penalty if cancelled by the Company.

Bank Loans

In September 2018, Tongmei entered into a credit facility with Industrial and Commercial Bank of China (“ICBC”) in China with a $2.9 million line of credit at an annual interest rate of approximately 0.04% over the current Loan Prime Rate published by ICBC. Accrued interest is calculated and paid monthly. The annual interest rate was approximately 4.4% as of September 30, 2018. This credit line is secured by Tongmei’s land-use right and all of its buildings located at its facility in Beijing. The primary intended use of the credit facility is for general purposes, which may include working capital, capital expenditures and other corporate expenses.

On September 30, 2018, we borrowed $291,000 against this credit line. The repayment of the full amount is due in September 2019. As of September 30, 2018, $291,000 was included in “Bank loan” in our condensed consolidated balance sheets.

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 operations.

Note 13. Foreign Exchange Transaction Gains/Losses

We incurred a foreign currency transaction exchange gain of $116,000 and exchange loss of $339,000 for the three months ended September 30, 2018 and 2017, respectively. We incurred a foreign currency transaction exchange loss of $224,000 and a loss of $414,000 for the nine months ended September 30, 2018 and 2017, respectively. These amounts are included in “Other (expense) income, net” on our condensed consolidated statements of operations.

Note 14. Income Taxes

We account for income taxes in accordance with ASC Topic 740, Income Taxes (“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. Our deferred tax assets have been reduced to zero by a valuation allowance.

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The Tax Act enacted in December 2017 introduced significant changes to U.S. income tax law. Effective 2018, the Tax Act reduced the U.S. statutory tax rate from 35% to 21% and created new taxes on certain foreign-sourced earnings and certain intercompany payments.

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.

We recognize interest and penalties related to uncertain tax positions in income tax expense. Income tax expense for the three and nine months ended September 30, 2018 includes no interest and penalties. As of September 30, 2018, 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 2002 and 2013, respectively.

Provision for income taxes for the three and nine months ended September 30, 2018 was mostly related to our wholly owned China subsidiaries and our three partially owned subsidiaries in China. Besides the state tax liabilities, no income taxes or benefits have been provided for U.S. operations for the three and nine months ended September 30, 2018 due to the loss in the U.S. and the uncertainty of generating future profit in the U.S., which has resulted in our deferred tax asset being fully reserved.

On December 22, 2017, the Tax Cuts & Jobs Act (“TCJA”) was enacted into law, which significantly changes existing U.S. tax law and includes numerous provisions that affect our business, such as imposing a one-time transition tax on deemed repatriation of deferred foreign income, reducing the U.S. federal statutory tax rate, and adopting a territorial tax system. The TCJA includes a provision to tax global intangible low-taxed income (“GILTI”) of foreign subsidiaries and a base erosion anti-abuse tax (“BEAT”) measure that taxes certain payments between a U.S. corporation and its subsidiaries. The GILTI and BEAT provisions of the TCJA is effective for us beginning January 1, 2018. We have included an estimate of the current GILTI impact in our September 30, 2018 tax provision. We are not subject to BEAT provision.

Note 15. Revenue

Revenue Recognition

We manufacture and sell high-performance compound semiconductor substrates including indium phosphide, gallium arsenide and germanium wafers, and our three consolidated subsidiaries sell certain raw materials, including 99.99% pure gallium (4N Ga), high purity gallium (7N Ga), pyrolytic boron nitride (pBN) crucibles and boron oxide (B_2O_3). 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 purchase orders placed by our customers, and our terms and conditions of sale do not require customer acceptance. We account for a contract with a customer when there is a legally enforceable contract, which could be the customer's purchase order, the rights of the parties are identified, the contract has commercial terms, and collectibility of the contract consideration is probable. The majority of our contracts have a single performance obligation to transfer products and are short term in nature, usually less than one year. Our revenue is measured based on the consideration specified in the contract with each customer in exchange for transferring products that is generally based upon a negotiated, formula, list or fixed price. Revenue is recognized when control of the promised goods is transferred to our customer, which is either upon shipment from our dock, receipt at the customer's dock, or removal from consignment inventory at the customer's location, in an amount that reflects the consideration we expect to be entitled to receive in exchange for those goods.

We have elected to account for shipping and handling as activities to fulfill the promise to transfer the goods. As such, shipping and handling fees billed to customers in a sales transaction are recorded in revenue and shipping and handling costs incurred are recorded in cost of revenue. Sales taxes and value added taxes in foreign jurisdictions that are collected from customers and remitted to governmental authorities are accounted for on a net basis and, therefore, are excluded from net sales.

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We do not provide training, installation or commissioning services. We provide for future returns based on historical data, prior experience, current economic trends and changes in customer demand at the time revenue is recognized. We do not recognize any asset associated with the incremental cost of obtaining revenue generating customer contracts. As such, sales commissions are expensed as incurred, given that the expected period of benefit is less than one year.

On January 1, 2018, we adopted ASC Topic 606, Revenue from Contracts with Customers (“ASC 606”), and its related amendments, using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. The adoption of ASC 606, using the modified retrospective approach, had no significant impact to our accumulated deficit as of January 1, 2018 and no significant impact to the total net cash from or used in operating, investing, or financing activities within the condensed consolidated statements of cash flows. In connection with this adoption on January 1, 2018, we reclassified our refund liabilities relating to sales with a right of return in the amount of $169,000 to present it separately from “Accounts receivables” and included it in “Accrued liabilities” on the condensed consolidated balance sheets.

Contract Balances

We receive payments from customers based on a billing schedule as established in our contracts. Contract assets are recorded when we have a conditional right to consideration for our completed performance under the contracts. Accounts receivables are recorded when the right to this consideration becomes unconditional. We do not have any material contract assets as of September 30, 2018.