## **UNITED STATES**

## SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

## **FORM 10-Q**

(Mark One)

x Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 For the quarterly period ended April 3, 2010

OR

" Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 0-13470

# NANOMETRICS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of

incorporation or organization)

#### 94-2276314 (I.R.S. Employer

Identification No.)

1550 Buckeye Drive, Milpitas, CA95035(Address of principal executive offices)(Zip Code)Registrant s telephone number, including area code: (408) 545-6000

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 x 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 such shorter period that the registrant was required to submit and post such file) Yes "No"

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act.

 Large accelerated filer
 ``
 Accelerated filer

 Non-accelerated filer
 x (Do not check if a smaller reporting company)
 Smaller reporting company

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

As of May 7, 2010 there were 21,626,077 shares of common stock, \$0.001 par value, issued and outstanding.

## NANOMETRICS INCORPORATED

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## FOR QUARTER ENDED APRIL 3, 2010

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## PART I FINANCIAL INFORMATION

### ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS NANOMETRICS INCORPORATED

## CONDENSED CONSOLIDATED BALANCE SHEETS

(Amounts in thousands, except share amounts)

## (Unaudited)

	Ар	ril 3, 2010	Janu	ary 2, 2010
ASSETS	Ē			
Current assets:				
Cash and cash equivalents	\$	45,844	\$	43,526
Accounts receivable, net of allowances of \$227 and \$241, respectively		25,988		23,047
Inventories		34,145		31,472
Inventories- delivered systems		1,525		1,175
Assets held for sale		228		220
Prepaid expenses and other		2,210		2,182
Deferred income tax assets		247		245
Total current assets		110,187		101,867
Property, plant and equipment, net		34,454		36,365
Intangible assets, net		6,678		7,067
Deferred income tax assets		658		612
Other assets		1,392		1,559
Total assets	\$	153,369	\$	147,470

## LIABILITIES AND STOCKHOLDERS EQUITY

Current liabilities:		
Revolving line of credit	\$	\$
Accounts payable	7,669	5,762
Accrued payroll and related expenses	4,465	4,012
Deferred revenue	3,535	5,162
Other current liabilities	7,080	8,952
Income taxes payable	322	173
Current portion of debt obligations	348	343
Total current liabilities	23,419	24,404
Deferred revenue	1,291	646
Income tax payable	752	692
Other long-term liabilities	2,295	2,235
Debt obligations	12,620	12,739
Total liabilities	40,377	40,716

## Commitments and contingencies (Note 18)

Stockholders equity:

Preferred stock, \$0.001 par value; 3,000,000 shares authorized; no shares issued or outstanding		
Common stock, \$0.001 par value, 47,000,000 shares authorized; 21,576,058 and 21,506,791		
respectively, issued and outstanding	21	21
Additional paid-in capital	219,244	218,308
Accumulated deficit	(107,023)	(112,948)
Accumulated other comprehensive income	750	1,373
Total stockholders equity	112,992	106,754
Total liabilities and stockholders equity	\$ 153,369	\$ 147,470

See Notes to Unaudited Condensed Consolidated Financial Statements

## NANOMETRICS INCORPORATED

## CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(Amounts in thousands, except per share amounts)

(Unaudited)

	Three M April 3, 2010	ns Ended March 28, 2009	
Net revenues:			
Products	\$ 28,548	\$ 4,940	
Service	8,617	5,117	
Total net revenues	37,165	10,057	
Costs of net revenues:			
Cost of products	12,476	3,695	
Cost of service	4,142	3,516	
Total costs of net revenues	16,618	7,211	
Gross profit	20,547	2,846	
Operating expenses:			
Research and development	4,570	3,239	
Selling	4,717	3,615	
General and administrative	4,581	3,972	
Amortization of intangible assets	389	369	
Asset impairment	344		
Restructuring charge		689	
Total operating expenses	14,601	11,884	
Income (loss) from operations	5,946	(9,038)	
Other income (expense)			
Interest income	21	15	
Interest expense	(472)	(266)	
Other, net	555	(1,359)	
Total other income (expense), net	104	(1,610)	
Income (loss) before income taxes	6,050	(10,648)	
Provision (benefit) for income taxes	125	(10,048)	
Trovision (ocherit) for medine taxes	125	(1))	
Net income (loss)	\$ 5,925	\$ (10,629)	
Net income (loss) per share:			
Basic	\$ 0.28	\$ (0.58)	
Diluted	\$ 0.26	\$ (0.58)	

Shares used in per share calculation:		
Basic	21,537	18,415
Diluted	22,655	18,415

## See Notes to Unaudited Condensed Consolidated Financial Statements

## NANOMETRICS INCORPORATED

## CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

## (Amounts in thousands)

## (Unaudited)

	Three M April 3, 2010	Three Months Ende April 3, 2010 March 2			
Cash flows from operating activities:					
Net income (loss)	\$ 5,925	\$	(10,629)		
Reconciliation of net loss to net cash provided by (used in) operating activities:					
Depreciation and amortization	1,509		1,417		
Asset impairment	344				
Stock-based compensation	929		318		
Gain on disposal of fixed assets	(4)				
Accounts receivable reserves			422		
Inventory write down	330		174		
Deferred taxes	(19)		24		
Unrealized foreign exchange (gain) loss	(523)		818		
Change in the fair value of contingent payments to Zygo Corporation	210				
Changes in assets and liabilities:					
Accounts receivable	(2,951)		6,226		
Inventories	(2,349)		(1,850)		
Inventories-delivered systems	(340)		9		
Prepaid expenses and other	(26)		(314)		
Other assets	191		48		
Accounts payable, accrued and other liabilities	2,284		(2,125)		
Deferred revenue	(975)		(826)		
Income taxes payable	214		(155)		
Net cash provided by (used in) operations	4,749		(6,443)		
Cash flows from investing activities:					
Payments to Zygo Corporation related to acquisition	(2,000)				
Purchases of property, plant and equipment	(451)		(273)		
Proceeds from sale of property, plant and equipment	71				
Net cash used in investing activities	(2,380)		(273)		
Cash flows from financing activities:	(114)		(01)		
Repayments of debt obligations	(114)		(81)		
Proceeds from sale of shares under employee stock option plans and purchase plan	184				
Stock offering costs	(28)				
Taxes paid on net issuance of stock awards	(149)				
Net cash used in financing activities	(107)		(81)		
Effect of exchange rate changes on cash and cash equivalents	56		(287)		
Net increase (decrease) in cash and cash equivalents	2,318		(7,084)		
Cash and cash equivalents, beginning of period	43,526		23,980		
Cash and cash equivalents, end of period	\$ 45,844	\$	16,896		

See Notes to Unaudited Condensed Consolidated Financial Statements.

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

#### (Unaudited)

#### Note 1. Basis of Presentation

In the opinion of management, the accompanying Unaudited Condensed Consolidated Financial Statements (financial statements) of Nanometrics Incorporated and its wholly-owned subsidiaries (collectively, Nanometrics or the Company) have been prepared on a consistent basis with the January 2, 2010 Audited Condensed Consolidated Financial Statements and include all adjustments, consisting of only normal recurring adjustments, necessary to fairly present the information set forth therein. All significant intercompany accounts and transactions have been eliminated in consolidation.

The financial statements have been prepared in accordance with the regulations of the United States Securities and Exchange Commission (SEC) and, therefore, omit certain information and footnote disclosure necessary to present the statements in accordance with accounting principles generally accepted in the United States of America. The operating results for interim periods are not necessarily indicative of the operating results that may be expected for the entire year. These financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto for the year ended January 2, 2010, which were included in the Company s Annual Report on Form 10-K, filed with the SEC on March 26, 2010.

*Subsequent Events* As of April 3, 2010, our facility in South Korea was classified as an asset held for sale. On December 30, 2009, the Company entered into a sale and purchase agreement with respect to the property for a purchase price of approximately \$0.4 million. On April 29, 2010, the sale of the property was completed and a gain on the sale of \$0.2 million will be recorded in the second quarter of 2010.

*Fiscal Period* Nanometrics uses a 52/53 week fiscal year ending on the Saturday nearest to December 31. All references to the quarter refer to Nanometrics fiscal quarter. The fiscal quarters presented herein include 13 weeks.

*Reclassification* During 2010, the Company determined that the FIN 48 liability of \$0.7 million, which was previously recorded on the balance sheets statement as income taxes payable as short term, should be reclassified to income tax payable as long term.

*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 reported period. Actual results could differ materially from those estimates. Estimates are used for, but not limited to, the provision for doubtful accounts, the provision for excess, obsolete, or slow moving inventories, depreciation and amortization, valuation of intangible assets and long-lived assets, warranty reserves, income taxes, valuation of stock-based compensation, and contingencies.

*Foreign Currency Translation* The assets and liabilities of foreign subsidiaries are translated from their respective functional currencies at exchange rates in effect at the balance sheet date and income and expense accounts are translated at average exchange rates during the reporting period. Resulting translation adjustments are reflected in accumulated other comprehensive income as a component of stockholders equity. Foreign currency transaction gains and losses are reflected in Other Income in the condensed consolidated statements of operations in the quarter incurred and consist of a \$0.6 million gain and \$1.4 million loss for the three month periods ended April 3, 2010 and March 28, 2009, respectively.

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(Unaudited)

#### Note 2. Recent Accounting Pronouncements

In January 2010, the FASB issued ASU 2010-06, *Improving Disclosures about Fair Value Measurements*, which amends ASC 820 to add two new disclosures: (1) transfers in and out of Level 1 and 2 measurements and the reasons for the transfers, and (2) a gross presentation of activity within the Level 3 roll forward. The ASU also includes clarifications to existing disclosure requirements on the level of disaggregation and disclosures regarding inputs and valuation techniques. The ASU is effective for interim and annual reporting periods beginning after December 15, 2009, except for the separate disclosures about purchases, sales, issuances, and settlements in the roll forward of activity in Level 3 fair value measurements. Those disclosures are effective for fiscal years beginning after December 15, 2010, and for interim periods within those fiscal years. In the period of initial adoption, entities will not be required to provide the amended disclosures for any previous periods presented for comparative purposes. However, comparative disclosures are required for periods ending after initial adoption.

#### Note 3. Fair Value Measurements and Disclosures

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The standard assumes that the transaction to sell the asset or transfer the liability occurs in the principal or most advantageous market for the asset or liability and establishes that the fair value of an asset or liability shall be determined based on the assumptions that market participants would use in pricing the asset or liability.

The Company determines the fair values of its financial instruments based on the fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The classification of a financial asset or liability within the hierarchy is based upon the lowest level input that is significant to the fair value measurement. The fair value hierarchy prioritizes the inputs into three levels that may be used to measure fair value:

Level 1 Quoted prices in active markets for identical assets or liabilities.

*Level 2* Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

*Level 3* Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Such unobservable inputs include an estimated discount rate used in our discounted present value analysis of future cash flows, which reflects our estimate of debt with similar terms in the current credit markets. As there is currently minimal activity in such markets, the actual rate could be materially different.

The following table presents the Company s fair value measurements that are measured at the estimated fair value, on a recurring basis, categorized in accordance with the fair value hierarchy (in thousands):

As of April 3, 2010	Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Unobservable Inputs (Level 3)	Total
Cash and cash equivalents (all short term):		, í		
Cash	\$ 7,711	\$	\$	\$ 7,711
Money market account	38,133			38,133

Total cash and cash equivalents	45,844		45,844
Total financial assets	\$ 45,844	\$ \$	\$ 45,844
Fair value of contingent payments to Zygo Corporation	\$	\$ \$ 2,606	\$ 2,606
Total financial liabilities	\$	\$ \$ 2,606	\$ 2,606

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

#### (Unaudited)

As of January 2, 2010	Quoted Pri in Active Markets f Identica Assets (Level 1	e Significant or Other I Observable Inputs	Unob In	iificant servable puts evel 3)	Т	otal
Cash and cash equivalents (all short term):						
Cash	\$ 8,6	09 \$	\$		\$	8,609
Money market account	34,9	17			3	4,917
Total cash and cash equivalents	43,5	26			4	3,526
Total financial assets	\$ 43,5	26 \$	\$		\$4	3,526
Fair value of contingent payments to Zygo Corporation	\$	\$	\$	5,688	\$	5,688
Total financial liabilities	\$	\$	\$	5,688	\$	5,688

Changes in the Company s Level 3 liabilities were as follows (in thousands):

	Level 3
Aggregate estimated fair value of Level 3 liability at December 27, 2008	\$
Fair value of deferred and contingent payment related to Zygo acquisition	5,092
Total unrealized loss included in earnings	596
Aggregate estimated fair value of Level 3 liability at January 2, 2010	5,688
Payments made to Zygo Corporation	(2,000)
Payment due to Zygo Corporation	(1,415)
Adjustments and change in the fair value of contingent payments	333
Aggregate estimated fair value of Level 3 liability at April 3, 2010	\$ 2,606

As of April 3, 2010, the Company has a liability of \$2.6 million resulting from the acquisition of certain assets from Zygo Corporation (Zygo) which is measured at fair value on a recurring basis. Of that amount, \$0.5 million is included in other current liabilities and \$2.1 million is included in other long-term liabilities on the Company s consolidated balance sheet. The fair value of the future royalty and sustaining engineering support fees was determined using a relief from royalty method based on the following: (a) amount of the acquired assets that business will generate, (b) a discount rate of 20 percent was utilized to adjust the purchase price payments to the present, based on the consideration of both a weighted average cost of capital calculation and venture capital rates. The Company will pay Zygo a royalty based on net revenues of approved products and the expected sustaining engineering payments based on volumes of heads purchased from Zygo starting in 2010 and over a 10 year period. Our payments to Zygo Corporation over the next 10 years may be up to \$6.8 million depending on the numbers of tools sold. In the first quarter of 2010, the Company was required to pay a royalty payment of \$0.1 million based on the net revenues of approved products. That \$0.1 million payment was made to Zygo on April 15, 2010. Changes in the fair value of these contingent payments subsequent to the acquisition date, including changes arising from events that occurred after the acquisition date, such as changes in the Company s estimate of future revenues and purchases, are recognized in earnings in the periods when the estimated fair value changes.

Certain assets are measured at fair value on a nonrecurring basis; that is, the instruments are not measured at fair value on an ongoing basis but are subject to fair value adjustments only in certain circumstances (for example, when there is evidence of impairment). During 2009 the Company recorded an impairment charge of \$1.9 million related to the Company s South Korean manufacturing facility. See Note 5 for discussion of the measurement criteria used. We classify these measurements as Level 3.

		Quoted Prices		
		in Active		
		Markets		
		for	Other	Significant
		Identical	Observable	Unobservable
	Year ended	Assets	Inputs	Inputs
	April 3, 2010	(Level 1)	(Level 2)	(Level 3)
Assets held for sale	\$ 228	\$	\$	\$ 228

#### NANOMETRICS INCORPORATED

#### NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

#### (Unaudited)

Other financial instruments include cash and cash equivalents, accounts receivable, accounts payable and debt obligations. Cash equivalents are stated at fair market value based on quoted market prices. The carrying values of accounts receivable and accounts payable approximate their fair values because of the short term maturity of these financial instruments. The carrying value of long-term debt obligations approximates their fair value.

#### Note 4. Acquisitions

#### Zygo acquisition

On June 17, 2009 ( acquisition date ), Nanometrics announced that it had purchased inventory and certain other assets of Zygo Corporation and that the two companies had entered into a supply agreement. The agreement establishes an exclusive OEM arrangement in which Zygo Corporation will provide interferometer sensors to Nanometrics for incorporation into the Unifire line of products as well as Nanometrics family of automated metrology systems. The arrangement is structured as an asset transfer and exclusive OEM supply agreement aimed at wafer-based markets. Nanometrics will assume all inventory and customer sales and support responsibilities and Zygo will provide measurement sensors for integration by Nanometrics. By completing this acquisition, Nanometrics anticipates expanding its served markets to include the high end of dimensional control metrology for the rapidly-growing back-end-of-line packaging market, while also enhancing our product offerings to front-end-of-line metrology customers. In addition to the applications currently addressed by Nanometrics and Zygo products, the business partnership allows for the joint development of additional technology solutions targeted at the semiconductor and related industries. This transaction met the conditions of a business combination. The results from the Unifire line of business were included in the Company s consolidated statements of operations from the acquisition date.

The following table summarizes the fair value of consideration recorded and the fair value of acquired assets:

Fair value of purchase consideration transferred \$5,092 (in thousands):

		Amounts
Assets acquired:		
Inventories raw materials		\$ 2,014
Property, plant and equipment	machinery and equipment	1,378
Total assets acquired:		3,392
Other intangible assets:		
Developed technology		1,362
Customer relationships		338
Total other intangible assets:		1,700
Net assets acquired		\$ 5,092

The fair value of the purchase consideration at the time of the acquisition for the assets acquired was \$5.1 million, which consisted of deferred payments to Zygo for inventory and fixed assets, as well as future royalty and sustaining engineering support fees. The future royalty and sustaining engineering support fees are considered contingent consideration. On the acquisition date, the acquisition did not involve any cash payments to Zygo. The fair value of purchase consideration transferred including contingent consideration was recorded as a liability on the Company s consolidated balance sheet at January 2, 2010, with \$3.1 million current and \$2.0 million long-term.

The Company will be required to make payments to Zygo after each sale of the Company s product which incorporates inventory acquired from Zygo. If the Company has not sold sufficient products which incorporate the acquired inventory from Zygo, within one year from the date of the acquisition, the Company must remit the remaining unpaid portion relating to inventory and fixed assets at that time. The purchase agreement also stipulated that if the Company received greater than \$5.0 million in a financing transaction, then 20% of the financing proceeds, not to exceed \$2 million, must be paid to Zygo for any unpaid portion of the amounts related to inventory and fixed assets. In December 2009, the Company completed a common stock offering with net proceeds of \$2.3 million, therefore \$2.0 million became immediately due. That \$2.0 million payment was made to Zygo on January 7, 2010. In March 2010, the Company sold products which incorporate the acquired inventory from Zygo, therefore, the remaining unpaid portion relating to inventory and fixed assets of \$1.4 million became due and was paid on April 15, 2010.

#### NANOMETRICS INCORPORATED

### NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

#### (Unaudited)

The fair value of the purchase consideration relating to the inventory and fixed assets was determined using an analysis based on management s expected revenue from products which incorporate the acquired inventory from Zygo, discounted by 20 percent to arrive at the present value.

The fair value of the future royalty and sustaining engineering support fees was determined using a relief from royalty method based on the following: (a) amount of the acquired assets that business will generate, (b) a discount rate of 20 percent was utilized to adjust the purchase price payments to the present, based on the consideration of both a weighted average cost of capital calculation and venture capital rates. The Company will pay Zygo a royalty based on net revenues of approved products and the expected sustaining engineering payments based on volumes of heads purchased from Zygo starting in 2010 and over a 10 year period. Our payments to Zygo Corporation over the next 10 years may be up to \$6.8 million depending on the numbers of tools sold. In the first quarter of 2010, the company was required to pay a royalty payment of \$0.1 million based on the net revenues of approved products. That \$0.1 million payment was made to Zygo on April 15, 2010.

The fair value of inventory acquired was \$2.0 million consisting of raw materials. Recent purchases of raw material were considered a reasonable proxy for fair value. The fair value of demonstration equipment was \$1.4 million as determined by considering the purchase date and recent usage of the products. Fair value of developed technology of \$1.4 million and customer relationships of \$0.3 million were determined by similar methodology used above for the contingent consideration, with the following assumptions of (a) royalty rate of 3 percent, and (b) discount rate of 30 percent, and have definite lives amortizable over a period of 10 years on a straight-line basis and accelerated basis amortized over a two-year period, respectively. The amortization expense of \$0.2 million was recorded for the acquired intangible assets from the Zygo transaction from the acquisition date to April 3, 2010.

The following unaudited pro forma summary presents consolidated information of Nanometrics as if the business combination had occurred at the beginning of the respective period (in thousands):

	Pr	o Forma
	Thr	ee-Months
		Ended
	Μ	larch 28,
		2009
	(u	naudited)
Net revenues	\$	11,099
Net income (loss)		(13,392)
Net loss per share:		
Basic	\$	(0.73)
Diluted	\$	(0.73)

#### Note 5. Asset Held for Sale

In May 2009, the management of Nanometrics decided to close the Pyeongtaek, South Korea manufacturing facility due to the prevailing industry and economic conditions facing the semiconductor industry. The premises have effectively been vacated prior to the end of the second quarter 2009 and the Company began actively pursuing the sale of the facility and related manufacturing assets at that time. The Company also ceased recording depreciation on the facility at that time. The fair value of the South Korea manufacturing facility was determined using a cost approach and a sale comparison approach. The cost approach uses the characteristics of the facility to determine the cost of replacement if the facility were new, adjusted for depreciation to date considering the age of the facility. The sale comparison approach considers market comparable sales activity. An average of the two approaches was used to determine the facility fair value of approximately \$0.2 million, which included an estimate for selling costs at 10% of the building fair value. An impairment loss of \$1.9 million was recorded on the South Korea facility in the second quarter of 2009. The facility in South Korea remained an asset held for sale as of April 3, 2010. On December 30, 2009, the Company entered into a sale and purchase agreement respect to the property for a purchase price of approximately \$0.4 million. On April 29,

2010, the sale of the property was completed and a gain on the sale of \$0.2 million will be recorded in the second quarter of 2010.

#### NANOMETRICS INCORPORATED

### NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(Unaudited)

#### Note 6. Restructuring Charge

The Company did not record a restructuring charge in the first quarter of 2010. In the first quarter of 2009, the Company reduced the global workforce by 51 employees, and recorded a restructuring charge of \$0.7 million.

	Severance and Other Benefits	Total
Reserve balance at December 27, 2008	\$ 80	\$ 80
Restructuring charges First Quarter of 2009	689	689
Cash paid	(769)	(769)
Reserve balance at March 28, 2009	\$	\$

#### Note 7. Accounts Receivable

The Company maintains arrangements under which eligible accounts and notes receivable are sold without recourse to unrelated third-party financial institutions. These receivables were not included in the consolidated balance sheets as the criteria for sale treatment had been met. After a transfer of financial assets, an entity stops recognizing the financial assets when the control has been surrendered. The agreement met the criteria of a sale of these assets since the acquiring party retained the title to these receivables and had assumed the risk that the receivables will not be collectible. The Company pays administrative fees as well as interest at rates ranging from 1.475% to 1.675% based on the anticipated length of time between the date the sale is consummated and the expected collection date of the receivables sold. The Company sold \$0.7 million and \$1.9 million of receivables, respectively, during the three-months periods ended April 3, 2010 and March 28, 2009. There were no material gains or losses on the sale of such receivables. There were no amounts due from the financial institutions at April 3, 2010 and January 2, 2010.

#### Note 8. Inventories

Inventories are stated at the lower of standard cost (which approximates actual cost on a first-in, first-out basis), or market and consist of the following (in thousands):

	Ар	ril 3, 2010	Janu	ary 2, 2010
Raw materials and sub-assemblies	\$	18,171	\$	19,006
Work in process		7,105		4,286
Finished goods		8,869		8,180
Total inventories	\$	34,145	\$	31,472

We reflect the cost of systems that were invoiced upon shipment but deferred for revenue recognition purposes separate from our inventory held for sale as Inventories delivered systems.

### Note 9. Property, Plant and Equipment

Property, plant and equipment consist of the following (in thousands):

	April 3, 2010	January 2, 2010
Land	\$ 15,570	\$ 15,583
Building and improvements	18,512	18,575
Machinery and equipment	13,376	14,424
Furniture and fixtures	2,309	2,295
Construction in progress	1,562	1,850
Total property, plant and equipment, gross	51,329	52,727
Accumulated depreciation and amortization	(16,875)	(16,362)
Total property, plant and equipment, net	\$ 34,454	\$ 36,365

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(Unaudited)

#### Note 10. Intangible Assets

On June 17, 2009, Nanometrics announced that it had purchased inventory and certain other assets of Zygo Corporation and that the two companies have entered into a supply agreement, as a result, the Company recorded \$1.4 million of developed technology and \$0.3 million of customer relationships, during second quarter period of 2009. The Company will amortize the developed technology on a straight line basis over a period of ten years and the customer relationships on an accelerated basis over a period of two years from the date of acquisition.

Finite-lived intangible assets are recorded at cost, less accumulated amortization. Finite-lived intangible assets as of April 3, 2010 consist of the following (in thousands):

	U	usted cost as of ril 3, 2010	amor	cumulated tization as of ril 3, 2010	amo	carrying ount as of il 3, 2010
Developed technology	\$	8,681	\$	(4,149)	\$	4,532
Customer relationships		8,521		(7,060)		1,461
Brand names		1,927		(1,268)		659
Patented technology		1,790		(1,790)		
Trademark		80		(54)		26
Total	\$	20,999	\$	(14,321)	\$	6,678

	Ū	usted cost as of ary 2, 2010	amort	umulated ization as of nuary 2, 2010	amo	carrying ount as of ary 2, 2010
Developed technology	\$	8,681	\$	(3,934)	\$	4,747
Customer relationships		8,521		(6,924)		1,597
Brand names		1,927		(1,232)		695
Patented technology		1,790		(1,790)		
Trademark		80		(52)		28
Total	\$	20,999	\$	(13,932)	\$	7,067

The amortization of finite-lived intangibles is computed using the straight-line method except for customer relationships which is computed using an accelerated method. Estimated lives of finite-lived intangibles range from five to ten years. Total amortization expense for the three-month period ended April 3, 2010 and March 28, 2009 was \$0.4 million and \$0.4 million, respectively.

The estimated future amortization expense as of April 3, 2010 is as follows (in thousands):

Fiscal Years	
2010 (remaining nine months)	\$ 1,169
2011	1,319

2012	1,112
2013	951
2014	809
2015	636
Thereafter	682

Total amortization

\$6,678

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(Unaudited)

#### Note 11. Other Current Liabilities

Other current liabilities consist of the following (in thousands):

	Apr	il 3, 2010	Janua	ry 2, 2010
Accrued warranty	\$	1,707	\$	1,200
Accrued professional services		792		1,021
Customer deposits		1,580		1,601
Fair value of contingent consideration		513		3,655
Amounts due to Zygo Corporation		1,415		
Other		1,073		1,475
Total other current liabilities	\$	7,080	\$	8,952

#### Note 12. Line of Credit and Debt Obligations

Debt obligations consist of the following (in thousands):

	Арі	ril 3, 2010	Janua	ary 2, 2010
Line of Credit				
Borrowing from line of credit	\$		\$	
Debt Obligations				
Milpitas building mortgage		12,968		13,082
Total debt obligations		12,968		13,082
Current portion of debt obligations		(348)		(343)
Long-term debt obligations	\$	12,620	\$	12,739

In February 2007, the Company entered into a two-year agreement for a revolving line of credit facility in a maximum principal amount of \$15.0 million. On April 30, 2009, Nanometrics re-negotiated its revolving line of credit facility for an additional two years, to April 30, 2011. On June 15, 2009, we amended the financial covenants governing the credit facility to reduce the net tangible worth requirements, effective as of June 27, 2009. The instrument governing the facility includes certain financial covenants regarding net tangible worth. The revolving line of credit agreement includes a provision for the issuance of commercial or standby letters of credit by the bank on behalf of the Company. The value of all letters of credit outstanding reduces the total line of credit available. The revolving line of credit is collateralized by a blanket lien on all of the Company s domestic assets excluding intellectual property and real estate. At the end of the first quarter of 2010, the Company has \$15.0 million. Borrowing is limited to the lesser of (a) \$7.5 million plus the Borrowing Base or (b) \$15.0 million. The Company is not in breach of any restrictive covenants in connection with its line of credit and all debt obligations. No withdrawals have been made as of April 3, 2010. Although the Company has no current plans to request advances under this credit facility, it may use the proceeds of any future borrowing for general corporate purposes or for future acquisitions or expansion of the Company s business.

On April 13, 2010, the Company amended the revolving line of credit facility to (i) increase the maximum principal amount available thereunder from \$15.0 million to \$20.0 million, (ii) extend the maturity date of such facility by one year to April 30, 2012, and (iii) decrease the unused revolving line commitment fee from 0.25% per annum to 0.1875% per annum.

In July 2008, the Company entered into a loan agreement pursuant to which we borrowed \$13.5 million. The loan initially bears interest at the rate of 7.18% per annum, which rate will be reset after five years to 3.03% over the then weekly average yield of five-year U.S. Dollar Interest Rate Swaps as published by the Federal Reserve. Monthly principal and interest payments are based on a twenty year amortization for the first sixty months and fifteen year amortization thereafter. The remaining principal balance of the loan and any accrued but unpaid interest will be due on August 1, 2018. The loan is secured, in part, by a lien on and security interest in the building and land comprising of the Company s principal offices in Milpitas, California.

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

#### (Unaudited)

At April 3, 2010, future annual maturities of all debt obligations were as follows (in thousands):

2010 (remaining nine months)	\$	228
2011		368
2012		396
2013		426
2014		368 396 426 458
2015		492
Thereafter	1	0,600
Total	\$1	2,968

#### Note 13. Net Income (Loss) Per Share

Net Income (Loss) Per Share Basic net income (loss) per share is computed by dividing net income (loss) by the weighted average common shares outstanding during the period. Diluted net income per share gives effect to all potentially dilutive common shares outstanding during the period, including contingently issuable shares and certain stock options, calculated using the treasury stock method. A reconciliation of the share denominator of the basic and diluted net income (loss) per share computations is as follows (in thousands):

	Three-Me	e-Months Ended	
	April 3, 2010	March 28, 2009	
Weighted average common shares outstanding used in basic net			
loss per share calculation	21,537	18,415	
Potential dilutive common stock equivalents, using treasury stock			
method	1,118		
Shares used in diluted net income (loss) per share computation	22,655	18,415	

As of April 3, 2010 and March 28, 2009, the Company had securities outstanding which could potentially dilute basic earnings per share in the future, which were excluded from the computation of diluted net loss per share in the periods presented as their impact would have been anti-dilutive. Weighted average common share equivalents, consisting of stock options, excluded from the calculation of diluted net loss per share were 0.6 million and 3.5 million as of April 3, 2010 and March 28, 2009, respectively.

During the third fiscal quarter of 2007, the Company s Board of Directors authorized a stock repurchase program pursuant to which the Company may repurchase up to \$4.0 million of its common stock. During the first quarters of fiscal year 2010 and 2009, the Company did not repurchase common shares in the open market. At April 3, 2010, \$1.3 million remained available for the future purchase of shares of common stock.

#### Note 14. Stock-Based Compensation

Stock-based compensation expense for all share-based payment awards made to the Company s employees and directors pursuant to the employee stock option and employee stock purchase plans and the executive bonus plan is as follows (in thousands):

	Three-M	<b>Three-Months Ended</b>		
	April 3, 2010	March	a 28, 2009	
Cost of products	\$ 25	\$	(81)	
Cost of service	47		36	
Research and development	105		(22)	
Selling	93		145	
General and administrative	659		240	
Total stock-based compensation expense	\$ 929	\$	318	

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

#### (Unaudited)

The fair value of each option award is estimated on the date of grant using the Black-Scholes valuation model and the assumptions noted in the following table. The expected term of options granted was calculated using the simplified method. The risk-free rate is based on the U.S. Treasury rates in effect during the corresponding period of grant. The expected volatility is based on the historical volatility of Nanometrics stock price. The dividend yield reflects that the Company has not paid any cash dividends since inception and does not intend to pay any cash dividends in the foreseeable future.

	Three-Month	is Ended
	April 3, 2010	March 28, 2009
Stock Options		
Expected life	3.91 years	4.3 years
Volatility	75.7%	61.2%
Risk free interest rate	2.15%	1.75%
Dividends		
Employee Stock Purchase Plan		
Expected life	0.5 years	0.5 years
Volatility	98.9%	89.6%
Risk free interest rate	0.18%	0.94%
Dividends		

The weighted average fair value per share of the stock options awarded in the three month periods ended April 3, 2010 and March 28, 2009 was \$6.12 and \$0.61, respectively, based on the fair market value of the Company s common stock on the grant dates.

A summary of activity under the Company s stock option plans during the quarter ended April 3, 2010 is as follows:

	Shares Available for Grant (Options and RSUs)	Number of Shares Outstanding (Options)	Av Ex	eighted verage cercise Price	Weighted Average Remaining Contractual Term (Years)	I V	ggregate itrinsic alue (in ousands)
Options							
Outstanding at January 2, 2010	1,773,229	2,953,294	\$	5.95	5.1	\$	16,692
Exercised		(43,861)					
Granted	(38,228)	38,228					
Stock and Restricted Stock Units Allocation	(40,916)						
Cancelled	64,352	(64,352)					
Outstanding at April 3, 2010	1,758,437	2,883,309	\$	5.95	4.9	\$	11,751
Exercisable at April 3, 2010		1,598,231	\$	7.03	4.3	\$	5,000

During the three-month period ended April 3, 2010, the Company granted 6,996 Restricted Stock Units (RSUs), which vest on the one year anniversary of the Vesting Commencement date. Also, 33,920 shares were used to settle accrued bonus liabilities. As of April 3, 2010, there were 83,658 Restricted Stock Units outstanding.

The aggregate intrinsic value in the preceding table represents the total pretax intrinsic value, based on the Company s closing stock price of \$9.59 as of April 3, 2010, which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of options exercised during the three month period ended April 3, 2010 was \$0.2 million and during the three month period ended March 28, 2009 was immaterial.

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(Unaudited)

#### Note 15. Comprehensive Income (Loss)

The Company s comprehensive income (loss) was as follows (in thousands):

	Three-M	Three-Months Ended		
	April 3, 2010	Mar	rch 28, 2009	
Net income (loss)	\$ 5,925	\$	(10,628)	
Foreign currency translation adjustments	(623)		47	
Total comprehensive income (loss)	\$ 5,302	\$	(10,581)	

All of the accumulated other comprehensive income reflected as a separate component of stockholders equity consists of accumulated foreign currency translation adjustment for all periods presented.

#### Note 16. Warranties

*Product Warranty* The Company sells the majority of its products with a 12-month repair or replacement warranty from the date of acceptance which generally represents the date of shipment. The Company provides an accrual for estimated future warranty costs based upon the historical relationship of warranty costs to the cost of products sold. The estimated future warranty obligations related to product sales are recorded in the period in which the related revenue is recognized. The estimated future warranty obligations are affected by the warranty periods, sales volumes, product failure rates, material usage, and labor and replacement costs incurred in correcting a product failure. If actual product failure rates, material usage, labor or replacement costs differ from the Company s estimates, revisions to the estimated warranty obligations would be required. For new product introductions where limited or no historical information exists, the Company may use warranty information from other previous product introductions to guide it in estimating its warranty accrual. The warranty accrual represents the best estimate of the amount necessary to settle future and existing claims on products sold as of the balance sheet date. The Company periodically assesses the adequacy of its reported warranty reserve and adjusts the amounts in accordance with changes in these factors. Components of the warranty accrual, which was included in the accompanying consolidated balance sheets with other current liabilities, were as follows (in thousands):

	Three-M	onths En	ns Ended		
	April 3, 2010	Marc	h 28, 2009		
Balance as of beginning of period	\$ 1,200	\$	2,075		
Actual warranty costs	(473)		(766)		
Provision for warranty	980		127		
Balance as of end of period	\$ 1,707	\$	1,436		

#### Note 17. Income Taxes

The income taxes expense of \$125,000 for the three-month period ended April 3, 2010 was the result of foreign tax expense of \$100,000, federal AMT liability of \$82,000, state tax expense of \$13,000 and foreign withholding tax of \$12,000, offset by \$82,000 of federal AMT tax refund. The income tax benefit of \$19,000 for the three-month period ended March 28, 2009 was the result of foreign tax benefit of \$39,000 offset by \$20,000 in state tax expense.

#### Note 18. Commitments and Contingencies

In August 2005, KLA-Tencor Corporation, or KLA, filed a complaint against us in the United States District Court for the Northern District of California. The complaint alleges that certain of the Company s products infringe two of KLA s patents. On January 30, 2006, KLA added a third patent to their claim. The complaint seeks a preliminary and permanent injunction against the sale of these products as well as the recovery of monetary damages and attorneys fees. The Company does not believe that any of its products infringe the intellectual property of any third party and intends to vigorously and aggressively defend itself in the litigation. As part of such defense, the Company filed a request for re-examination of the three allegedly infringed KLA patents with the U.S. Patent & Trademark Office, or PTO. In March 2006, the Company filed a motion for and was granted a stay in the patent litigation case until such re-examination is completed. On July 28, 2008, the PTO issued a Notice of Intent to issue a Reexamination Certificate for one of the KLA patents. The re-examination of the final KLA patent-in-suit remains pending and on September 21, 2009 the Company filed an additional request for re-examination relating to this patent. The case has been stayed, and the Company is waiting to receive a response from the Patent and Trademark Office before it takes any additional action. In all three of the re-examination proceedings, the PTO has issued Office Actions rejecting numerous claims and KLA has amended the claims in response.

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

#### (Unaudited)

*Intellectual Property Indemnification Obligations* The Company will, from time to time, in the normal course of business, agree to indemnify certain customers with whom it enters into contractual relationships. The Company has agreed to hold these customers harmless against third party claims that Nanometrics products, when used for their intended purpose(s), infringe the intellectual property rights of such third parties or other claims made against the customer. It is not possible to determine the maximum potential amount of liability under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances that are likely to be involved in each particular claim. Historically, the Company has not made payments under these obligations and believes that the estimated fair value of these agreements is de minimis. Accordingly, no liabilities have been recorded for these obligations in the accompanying unaudited consolidated balance sheets as of April 3, 2010 and March 28, 2009.

#### Note 19. Geographic and Significant Customer Information

The Company has one operating segment, the Company s operating segment is the sale, design, manufacture, marketing and support of thin film, optical critical dimension and overlay dimension metrology systems. The following table summarizes total net revenues and long-lived assets (excluding intangible assets) attributed to significant countries (in thousands):

	Three-M	Three-Months Ended		
	April 3, 2010	Mar	ch 28, 2009	
Total net revenues:				
South Korea	\$ 16,145	\$	453	
United States	12,931		2,265	
Japan	2,940		4,752	
China	1,996		325	
Taiwan	1,587		218	
Europe	756		1,666	
All other	810		378	
Total net revenues*	\$ 37,165	\$	10,057	

\* Net revenues are attributed to countries based on the deployment and service locations of systems.

	Ар	ril 3, 2010	Janu	ary 2, 2010
Long lived assets				
United States	\$	32,589	\$	34,252
Japan		561		819
South Korea		1,119		1,148
Taiwan		58		66
Europe		1,323		1,450
China		10		12
All Other		186		177
Total long lived assets**	\$	35,846	\$	37,924

\*\* Long-lived assets include tangible assets only.

#### NANOMETRICS INCORPORATED

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

#### (Unaudited)

The following customers accounted for 10% or more of total accounts receivable:

	April 3, 2010	January 2, 2010
Samsung Semiconductor, Inc	41.0%	30.5%
Hynix Semiconductor, Inc	12.9%	16.1%
Intel Corporation, Inc	***	12.7%

\*\*\* The customer accounted for less than 10% of total accounts receivable during the period. The following customers accounted for 10% or more of total revenue:

	Three-Mon	ths Ended
	April 2, 2010	March 28, 2009
Samsung Electronics Co. Ltd.	38.2%	***
Intel Corporation	22.9%	***
Toshiba Corporation	***	14.4%

\*\*\* The customer accounted for less than 10% of revenue during the period.

**ITEM 2. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS** This Quarterly Report on Form 10-Q contains forward-looking statements that involve risks and uncertainties. The statements contained in this document that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including, without limitation, statements regarding our expectations, beliefs, intentions or strategies regarding our business in future periods. We may identify these statements by the use of words such as anticipate, believe, continue, could, estimate, expect, intend, may, might, plan, potential, predict, project, should, will, would and other similar ex forward-looking statements included in this document are based on information available to us on the date hereof, and we assume no obligation to update any such forward-looking statements, except as may otherwise be required by law.

Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain risk factors, including those set forth in Part II Item 1A Risk Factors and elsewhere in this document. In evaluating our business, investors should carefully consider these factors in addition to the other information set forth in this document. The occurrence of the events described in the risk factors and elsewhere in this report as well as other risks and uncertainties could materially and adversely affect our business, operating results and financial condition. While management believes that the discussion and analysis in this report is adequate for a fair presentation of the information presented, we recommend that you read this discussion and analysis in conjunction with the (i) audited consolidated financial statements and notes thereto for the year January 2, 2010 which were included in our 2009 Annual Report on Form 10-K filed with the Securities Exchange Commission on March 26, 2010 and (ii) our other filings with the Securities and Exchange Commission.

#### Overview

The semiconductor industry is cyclical in nature and has historically experienced periodic downturns and upturns. Today s leading indicators of changes in customer investment patterns may not be any more reliable than in prior years. Demand for our equipment can vary significantly from period to period as a result of various factors, requirements, and our ability to develop, acquire, and market competitive products. For these and other reasons, our current results of operations may not necessarily be indicative of future operating results.

Nanometrics is a leading provider of high-performance process control metrology systems used primarily in the fabrication of semiconductors, high-brightness LEDs ( HB-LED ), data storage devices and solar photovoltaics. Nanometrics automated and integrated metrology systems measure critical dimensions, device structures, overlay registration, topography and various thin film properties, including film thickness as well as optical, electrical and material properties. The company s process control solutions are deployed throughout the fabrication process; from front-end-of-line substrate manufacturing, to high-volume production of semiconductors and other devices, to advanced wafer-scale packaging applications. Nanometrics systems enable device manufacturers to improve yields, increase productivity and lower their manufacturing costs. Our systems are categorized as:

- Our Automated Metrology systems are made up of manual, semi-automated and fully automated metrology systems which are employed in high-volume and low-volume production environments. The Automated Metrology systems incorporate automated material handling interface options for a variety of fabrication automation environments and implement multiple measurement technologies including film measurement, overlay, topography and optical critical dimension (OCD) for a broad range of substrate sizes and applications.
- Our Integrated Metrology systems are installed inside wafer processing equipment to provide near real-time measurements for improving process control and increasing throughput. Our Integrated Metrology systems are sold directly to customers and through our OEM channels.
- 3) Our Materials Characterization products include systems that are used to monitor the physical, optical, electrical and material characteristics of HB-LED, compound semiconductor, including composition, crystal structure, layer thickness, dopant concentration, contamination and electron mobility. Tabletop systems are used to manually or semi-automatically measure thin films in engineering and low-volume production environments.

#### **Our Business**

We are continually working to strengthen our competitive position by developing new technologies and products in our market segment. We have expanded our product offerings to address growing applications within the semiconductor manufacturing industry. We have:

Introduced new products in every core product line and primary market served;

Restructured our business and practices for operational and earnings leverage;

Diversified our product line and served markets through acquisitions, such as the 2006 acquisition of Accent Optical Technologies, Inc.; the 2008 acquisition of Tevet Process Control Technologies (Tevet), an integrated metrology supplier serving both semiconductor and solar PV industries; and the acquisition of the Unifire product line from Zygo Corporation in June 2009;

Continued development of new integrated measurement technologies for advanced fabrication processes; and

Researched innovative applications of existing technology to new market opportunities within the solar PV, HB-LED, and data storage industries.

#### **Critical Accounting Policies**

The preparation of our financial statements conforms to accounting principles generally accepted in the United States of America, which requires management to make estimates and judgments in applying our accounting policies that have an important impact on our reported amounts of assets, liabilities, revenue, expenses and related disclosures at the date of our financial statements. On an on-going basis, management evaluates its estimates including those related to bad debts, inventory valuations, warranty obligations and income taxes. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from management s estimates. There have been no significant changes to our critical accounting policies discussed in our Annual Report on Form 10-K for the fiscal year ended January 2, 2010.

#### **Recent Accounting Pronouncements**

See Note 2 of the Unaudited Condensed Consolidated Financial Statements for a description of recent accounting pronouncements, including the respective dates of adoption and effects on results of operations and financial condition.



#### **Results of Operations**

#### Periods ended April 3, 2010 and March 28, 2009

Total net revenues. Our net revenues were comprised of the following categories (in thousands):

	Three-Months Ended				
				Change	es In
	April 3, 2010	Marc	h 28, 2009	Amount	%
Automated Metrology	\$ 23,778	\$	779	\$ 22,999	2952.4%
Integrated Systems	337		965	(628)	(65.1)%
Material Characterization	4,433		3,196	1,237	38.7%
Total Product Revenue- (1)	28,548		4,940	23,608	477.9%
Service	8,617		5,117	3,500	68.4%
Total Net Revenues	\$ 37,165	\$	10,057	\$ 27,108	269.5%

## (1) Please refer to Overview for a full description of product revenues.

For the three-month periods ended April 3, 2010, net revenues from Automated Metrology increased by \$23.0 million from the comparable period of 2009. The increase in Automated Metrology revenues was driven by continued customer adoption of Atlas<sup>®</sup>, Lynx<sup>TM</sup> and Caliper Mosaic<sup>TM</sup> for OCD, thin film, overlay metrology solutions and sales of Unifire products. Net revenues from our Integrated Systems decreased by \$0.6 million from the comparable period of 2009, due primarily to reduced market demand. Net revenues from our Material Characterization increased by \$1.2 million from the comparable period of 2009, due mainly to increased market demand. Sales of our Integrated Systems and our Material Characterization systems are highly dependent on, and driven by, manufacturing companies expanding their capacity.

Service revenues increased by \$3.5 million for the three-month period ended April 3, 2010 from the comparable period of 2009 due to higher levels billable parts sold and higher in-the-field tool upgrades.

Gross margins. Our gross margin breakdown was as follows:

		Three-Months Ended		
	L.	April 3, 2010	March 28, 2009	
Products		56.3%	25.2%	
Service		51.9%	31.3%	
		10 0000		

The product gross margin for the three-month period ended April 3, 2010 of 56.3%, increased from 25.2% from the comparable period of 2009, as a result of higher product revenues, improved manufacturing productivity and manufacturing output leading to reduced fixed costs.

The gross margin for our services business increased to 51.9% for the three-month period ended April 3, 2010 as compared to gross margins of 31.3% for the comparable period of 2009. Two factors contributing to this increase are (a) a significant increase in service upgrades revenues, which revenues have a higher gross margin relative to our core service revenues and (b) higher productivity, and cost reductions in our core service area combined with higher overall service revenues.

Operating expenses. Our operating expenses were comprised of the following (in thousands):

				Change	es in
	April 3, 2010	Mar	ch 28, 2009	Amount	%
Research and development	\$ 4,570	\$	3,239	\$ 1,331	41.1%
Selling	4,717		3,615	1,102	30.5%
General and administrative	4,581		3,972	609	15.3%
Amortization of intangible assets	389		369	20	5.4%
Asset impairment	344			344	NM*
Restructuring charge			689	(689)	NM*
Total operating expenses	\$ 14,601	\$	11,884	\$ 2,717	22.9%

\* NM = not meaningful

**Research and development.** Research and development expenses increased by \$1.3 million in the three-month period ended April 3, 2010 over the comparable period in 2009 primarily due to higher payroll costs, benefits, accrued bonuses driven by higher profitability, consulting costs and stock-based compensation totaling \$1.0 million and increases in depreciation and amortization of \$0.1 million.

**Selling.** Selling expenses increased by \$1.1 million in the three-month period ended April 3, 2010 as compared to the corresponding period of 2009 primarily due to increases in payroll related expenses of \$0.6 million, bonuses of \$0.2 million, and commission expenses of \$0.2 million.

**General and administrative.** General and administrative expenses increased by \$0.6 million in the three-month period ended April 2, 2010 compared to the corresponding period in 2009 primarily due to increased professional fees of \$0.3 million, higher licenses and taxes of \$0.2 million and higher labor costs of \$0.1 million.

**Amortization of intangible assets.** Amortization of intangible assets was flat in the three-month periods ended April 3, 2010 and March 28, 2009.

Assets impairment. During the three-month period ended April 3, 2010, we recognized an impairment charge of \$0.3 million, representing the write off of our internal use software.

**Restructuring charge.** The Company recorded no restructuring costs in the quarter ended April 3, 2010 and we recorded a charge of \$0.7 million in the quarter ended March 28, 2009 driven by the reduction of 51 people.

Other income (expense). Our net other income (expense) consisted of the following categories (in thousands):

		Three-Months Ended					
					Changes in		
	April 3, 2010	Marc	h 28, 2009	Amount	%		
Interest income	\$ 21	\$	15	\$ 6	40.0%		
Interest expense	(472)		(266)	(206)	77.4%		
Other, net	555		(1,359)	1,914	(140.8)%		
Total operating income (expense)	\$ 104	\$	(1,610)	\$ 1,714	(106.5)%		

In the three-month period ended April 3, 2010 compared to the comparable period of 2009, we incurred higher interest expenses due to the imputed interest of \$0.2 million on fair value of contingent payments to Zygo Corporation related to our acquisition. In the three-month period ended April 3, 2010 and March 28, 2009, we incurred foreign exchange gains of \$0.6 million and loss of \$1.4 million, respectively, due to exchange rate fluctuations associated with our intercompany balances among our various global entities.

#### Provision for income taxes.

The income taxes expense of \$125,000 for the three-month period ended April 3, 2010 was the result of foreign tax expense of \$100,000, federal AMT liability of \$82,000, state tax expense of \$13,000 and foreign withholding tax of \$12,000, offset by \$82,000 of federal AMT tax refund.

The income tax benefit of \$19,000 for the three-month period ended March 28, 2009 was the result of foreign tax benefit of \$39,000, offset by \$20,000 in state tax expense.

#### Liquidity and Capital Resources

At April 3, 2010, the Company s cash and cash equivalents totaled \$45.8 million compared to \$43.5 million as of January 2, 2010. At April 3, 2010, the Company had working capital of \$86.8 million compared to \$77.5 million at January 2, 2010.

Operating activities provided cash of \$4.7 million for the three-month period ended April 3, 2010 primarily as a result of our net income for the three-month period of \$5.9 million, certain non-cash charges including \$1.5 million of depreciation and amortization, \$0.3 million of asset impairment, \$0.9 million of stock-based compensation, offset by decreases in net working capital of \$4.0 million and unrealized gain on foreign exchange \$0.5 million. Operating activities used cash of \$6.4 million for the three-month period ended March 28, 2009 as a result of our net loss for the quarter of \$10.6 million offset by certain non-cash charges including \$1.4 million of depreciation, \$0.3 million of stock-based compensation, accounts receivable reserves of \$0.4 million, unrealized loss on foreign exchange \$0.8 million and increases in net working capital of \$1.3 million.

Investing activities for the three-month period ended April 3, 2010 used cash of \$2.4 million as a result from cash payment of \$2.0 million to Zygo corporation, and cash outlays of \$0.5 million in capital equipment offset by sales proceeds of \$0.1 million from the sale of property, plant and equipment. Investing activities for the three-month period ended March 28, 2009 used cash of \$0.3 million related to cash outlays of capital equipment acquisitions.

For the three-month period ended April 3, 2010, financing activities used cash of \$0.1 million, as a result from repayment of debt obligation of \$0.1 million, and tax paid on net issuance of stock awards of \$0.2 million, offset by \$0.2 million of proceeds from the sale of Company shares to employees through the Company s stock purchase plans. For the three-month period ended March 28, 2009, financing activities used cash of \$0.1 million for repayment of debt obligation.

In December 2009, we completed a public offering of our common stock resulting in the net proceeds of \$23.3 million. We used \$2.0 million of the net proceeds from the offering to repay obligations related to the Company s acquisition of certain assets of Zygo Corporation in June 2009, with the remainder to be used for general corporate purposes, including working capital.

On June 17, 2009, we announced a strategic business partnership with Zygo Corporation whereby Nanometrics has purchased inventory and other assets from Zygo Corporation and the two companies have entered into a supply agreement. The Company will make payments to Zygo Corporation (with a present value of \$2.6 million as of April 3, 2010) over a period of time as the supply agreement is executed. Our payments to Zygo Corporation over the next 10 years may be up to \$6.8 million depending on the numbers of tools sold.

In February 2007, we entered into a two year agreement for a revolving line of credit facility with a maximum principal amount of up to \$15.0 million. On April 30, 2009, Nanometrics renegotiated its revolving line of credit facility and extended the term for an additional two years, to April 30, 2011. On June 15, 2009, we amended the financial covenants governing the credit facility to reduce the net tangible worth requirements, effective as of June 27, 2009. The instrument governing the facility includes certain financial covenants regarding minimum liquidity ratio and net tangible worth. All borrowings under this credit line bear interest, at our election, at a per annum rate equal to the bank s prime referenced rate plus 2.75% The revolving line of credit outstanding reduces the total line of credit available. We had no outstanding letters of credit against this line as of September 26, 2009. The revolving line of credit is collateralized by a blanket lien on all of our domestic assets excluding intellectual property and real estate. We may use the proceeds of any future borrowing under this credit facility for general corporate purposes.

On April 13, 2010, the Company amended the revolving line of credit facility to (i) increase the maximum principal amount available thereunder from \$15.0 million to \$20.0 million, (ii) extend the maturity date of such facility by one year to April 30, 2012, and (iii) decrease the unused revolving line commitment fee from 0.25% per annum to 0.1875% per annum.

In July 2008, we entered into a loan agreement pursuant to which we borrowed \$13.5 million. The loan initially bears interest at the rate of 7.18% per annum, which rate will be reset after five years to 3.03% over the weekly average yield of five-year U.S Dollar Interest Rate Swaps as published by the Federal Reserve. Monthly principal and interest payments are based on a twenty year amortization for the first sixty months and a fifteen- year amortization thereafter. The remaining principal balance of the loan and any accrued but unpaid interest will be due on August 1, 2018. The loan is secured, in part, by a lien on and security interest in the building and land comprising our principal offices in Milpitas, California.

We have evaluated and will continue to evaluate the acquisitions of products, technologies or business that are complementary to our business. These activities may result in product and business investments, which may affect our cash position and working capital balances. Some of these activities might require significant cash outlays. For example in the third quarter of 2007, our Board of Directors authorized a \$4.0 million stock repurchase program, of which there remains \$1.3 million available for future purchases. There were no repurchases under this program in the quarterly period ended April 3, 2010. We believe our cash, cash equivalents and borrowing availability will be sufficient to meet our liquidity needs through at least the next twelve months.

#### ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk does not differ materially from that discussed in our Annual Report on Form 10-K for the fiscal year ended January 2, 2010 filed with the SEC on March 26, 2010. However, we cannot give any assurance as to the effect that future changes in interest rates or foreign currency rates will have on our consolidated financial position, results of operations or cash flows.

#### ITEM 4. CONTROLS AND PROCEDURES Evaluation of Disclosure Controls and Procedures

Our management evaluated, with the participation of our Chief Executive Officer, Timothy J. Stultz, and our Chief Financial Officer, James P. Moniz, the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. As of April 3, 2010 our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, concluded that our disclosure controls and procedures were effective to ensure that information that we are required to disclose in reports that we file or submit under the Securities Exchange Act of 1934 were recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms.

#### Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the three-month period ended April 3, 2010 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

#### PART II OTHER INFORMATION

#### ITEM 1. LEGAL PROCEEDINGS

In August 2005, KLA-Tencor Corporation (KLA) filed a complaint against the Company in the United States District Court for the Northern District of California. The complaint alleges that certain of the Company s products infringe two of KLA s patents. On January 30, 2006, KLA added a third patent to their claim. The complaint seeks a preliminary and permanent injunction against the sale of these products as well as the recovery of monetary damages and attorneys fees. As part of its defense, the Company has filed a request for re-examination of two of the allegedly infringed KLA patents with the U.S. Patent & Trademark Office (PTO). In March 2006, the Company filed a motion for and was granted a stay in the patent litigation case until such re-examination is completed. On July 28, 2008, the PTO issued a Notice of Intent to issue a Reexamination Certificate for one of the KLA patents, and subsequently on June 23, 2009 issued an additional Notice of Intent to issue a Reexamination Certificate on the second of three patents. The reexamination of the final KLA patent-in-suit remains pending and on September 21, 2009 the Company filed an additional request for re-examination relating to this patent. The case has been stayed, and the Company is waiting for a response from the Patent and Trademark Office before taking any additional action. In all three of the reexamination proceedings, the PTO has issued Office Actions rejecting numerous claims and KLA has amended the claims in response.

#### ITEM 1A. RISK FACTORS

Investing in our securities involves a high degree of risk. In assessing these risks, you should carefully consider the information included in or incorporated by reference into this report, including our financial statements and the related notes thereto. You also should carefully review and consider all of the risk factors set forth in Part I, Item 1A. Risk Factors in our Annual Report on Form 10-K for the fiscal year ended January 2, 2010, filed with the Securities and Exchange Commission on March 26, 2010. The risks described in our Annual Report on Form 10-K are not the only ones we face. Additional risks and uncertainties that are not presently known to us or that we currently believe are immaterial may also impair our business operations. Our business, operating results and financial conditions could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks and investors may lose all or part of their investment. There have been no material changes in our risk factors from those discussed in our Annual Report on Form 10-K.

#### ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

We did not purchase any shares of our common stock during the three-month periods ended April 3, 2010.

#### ITEM 6. EXHIBITS

The following exhibits are filed or incorporated by reference with this Quarterly Report on Form 10-Q:

#### Exhibit

No.	Description
3(i)	Certificate of Incorporation
3.1(1)	Certificate of Incorporation of the Registrant
3(ii)	Bylaws
3.2(1)	Bylaws of the Registrant
10	Material Contracts
10.1(2)	Fourth Amendment to Loan and Security Agreement by and between Comerica Bank and Nanometrics Incorporated dated April 13, 2010

## 31 Rule 13a-14(a)/15d-14(a) Certifications

31.1(3) Certification of Timothy J. Stultz, principal executive officer of the Registrant, pursuant to rule 13a-14(a) or rule 15a-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

#### Exhibit

## Description

31.2(3) Certification of James P. Moniz, principal financial officer of the Registrant, pursuant to rule 13a-14(a) or rule 15a-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

## 32 Section 1350 Certifications

- 32.1(4) Certification of Timothy J. Stultz, principal executive officer of the Registrant, and James P. Moniz, principal financial officer of the Registrant, pursuant to rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- (1) Incorporated by reference to exhibits filed with the Registrant s Current Report on Form 8-K filed on October 5, 2006.
- (2) Incorporated by reference to Exhibit 99.1 filed with the Registrant s Current Report on Form 8-K filed on April 19, 2010.
- (3) Filed herewith.
- (4) Furnished herewith.

### SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

NANOMETRICS INCORPORATED (Registrant)

By:

/s/ JAMES P. MONIZ James P. Moniz Chief Financial Officer

Dated: May 17, 2010

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