

# SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

## FORM 10-Q

(Check One)

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

For the quarterly period ended March 31, 2018

**TRANSITION PURSUANT TO SECTION 13 OR 15(D)  
OF THE SECURITIES EXCHANGE ACT**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

*COMMISSION FILE NO. (0-16577)*

### CYBEROPTICS CORPORATION

(Exact name of registrant as specified in its charter)

**Minnesota**

(State or other jurisdiction of  
incorporation or organization)

**41-1472057**

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

**5900 Golden Hills Drive  
MINNEAPOLIS, MINNESOTA**

(Address of principal executive offices)

**55416**

(Zip Code)

**(763) 542-5000**

(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 such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by 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

Non-Accelerated Filer  (Do not check if a smaller reporting company)

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 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. At April 30, 2018, there were 7,005,936 shares of the registrant's Common Stock, no par value, issued and outstanding.

## PART I. FINANCIAL INFORMATION

### ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

**CONDENSED CONSOLIDATED BALANCE SHEETS**  
**CYBEROPTICS CORPORATION**  
**(Unaudited)**

(In thousands, except share information)	March 31, 2018	December 31, 2017
<b>ASSETS</b>		
Cash and cash equivalents	\$ 6,848	\$ 6,944
Marketable securities	6,170	6,670
Accounts receivable, less allowance for doubtful accounts of \$490 at March 31, 2018 and \$473 at December 31, 2017	12,112	10,772
Inventories	14,673	14,393
Other current assets	1,842	1,593
Total current assets	41,645	40,372
Marketable securities, long-term	9,908	9,073
Equipment and leasehold improvements, net	2,292	2,307
Intangible assets, net	352	380
Goodwill	1,366	1,366
Other assets	264	261
Deferred tax assets	5,961	5,742
Total assets	\$ 61,788	\$ 59,501
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Accounts payable	\$ 5,895	\$ 4,294
Advance customer payments	660	393
Accrued expenses	2,341	2,285
Total current liabilities	8,896	6,972
Other liabilities	211	88
Reserve for income taxes	160	159
Total liabilities	9,267	7,219
Commitments and contingencies		
<b>Stockholders' equity:</b>		
Preferred stock, no par value, 5,000,000 shares authorized, none outstanding	—	—
Common stock, no par value, 25,000,000 shares authorized, 7,005,936 shares issued and outstanding at March 31, 2018 and 6,979,686 shares issued and outstanding at December 31, 2017	34,521	34,080
Accumulated other comprehensive loss	(1,264)	(1,409)
Retained earnings	19,264	19,611
Total stockholders' equity	52,521	52,282
Total liabilities and stockholders' equity	\$ 61,788	\$ 59,501

SEE THE ACCOMPANYING NOTES TO UNAUDITED INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS**  
**CYBEROPTICS CORPORATION**  
(Unaudited)

(In thousands, except per share amounts)	Three Months Ended March 31,	
	2018	2017
Revenues	\$ 14,120	\$ 11,920
Cost of revenues	7,901	6,522
Gross margin	6,219	5,398
Research and development expenses	2,180	1,950
Selling, general and administrative expenses	4,340	3,970
Amortization of intangibles	17	17
Loss from operations	(318)	(539)
Interest income and other	62	(88)
Loss before income taxes	(256)	(627)
Income tax benefit	(83)	(413)
Net loss	\$ (173)	\$ (214)
Net loss per share – Basic	\$ (0.02)	\$ (0.03)
Net loss per share – Diluted	\$ (0.02)	\$ (0.03)
Weighted average shares outstanding – Basic	6,986	6,912
Weighted average shares outstanding – Diluted	6,986	6,912

SEE THE ACCOMPANYING NOTES TO UNAUDITED INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

**CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)**  
**CYBEROPTICS CORPORATION**  
(Unaudited)

(In thousands)	Three Months Ended March 31,	
	2018	2017
Net loss	\$ (173)	\$ (214)
<b>Other comprehensive income, before tax:</b>		
Foreign currency translation adjustments	220	269
<b>Unrealized gains (losses) on available-for-sale securities:</b>		
Unrealized gains (losses)	(40)	20
Total unrealized gains (losses) on available-for-sale securities	(40)	20
Other comprehensive income, before tax	180	289
Income tax provision (benefit) related to items of other comprehensive income	9	(86)
Other comprehensive income, net of tax	189	203
Total comprehensive income (loss)	\$ 16	\$ (11)

SEE THE ACCOMPANYING NOTES TO UNAUDITED INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**  
**CYBEROPTICS CORPORATION**  
(Unaudited)

(In thousands)	Three Months Ended March 31,	
	2018	2017
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Net loss	\$ (173)	\$ (214)
<b>Adjustments to reconcile net income to net cash provided by (used in) operating activities:</b>		
Depreciation and amortization	625	550
Provision for doubtful accounts	17	20
Deferred taxes	(139)	(413)
Foreign currency transaction losses (gains)	(34)	133
Stock based compensation	259	188
Unrealized loss on available-for-sale equity security	14	—
<b>Changes in operating assets and liabilities:</b>		
Accounts receivable	(1,357)	(106)
Inventories	(239)	(2,079)
Other assets	(229)	(109)
Accounts payable	1,579	833
Advance customer payments	130	92
Accrued expenses	36	(1,730)
Net cash provided by (used in) operating activities	<u>489</u>	<u>(2,835)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Proceeds from maturities of available-for-sale marketable securities	2,162	1,634
Proceeds from sales of available-for-sale marketable securities	70	—
Purchases of available-for-sale marketable securities	(2,621)	(1,701)
Additions to equipment and leasehold improvements	(348)	(123)
Additions to patents	(22)	(40)
Net cash used in investing activities	<u>(759)</u>	<u>(230)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Proceeds from exercise of stock options	182	321
Net cash provided by financing activities	<u>182</u>	<u>321</u>
Effects of exchange rate changes on cash and cash equivalents	<u>(8)</u>	<u>30</u>
Net decrease in cash and cash equivalents	(96)	(2,714)
Cash and cash equivalents – beginning of period	6,944	10,640
Cash and cash equivalents – end of period	<u>\$ 6,848</u>	<u>\$ 7,926</u>

SEE THE ACCOMPANYING NOTES TO UNAUDITED INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

**NOTES TO THE UNAUDITED INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS  
CYBEROPTICS CORPORATION**

**1. INTERIM REPORTING:**

The interim condensed consolidated financial statements presented herein as of March 31, 2018, and for the three month periods ended March 31, 2018 and 2017, are unaudited, but in the opinion of management, include all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of financial position, results of operations and cash flows for the periods presented.

The results of operations for the three month period ended March 31, 2018 do not necessarily indicate the results to be expected for the full year. The December 31, 2017 consolidated balance sheet data was derived from audited consolidated financial statements, but does not include all disclosures required by accounting principles generally accepted in the United States of America. The unaudited interim condensed consolidated financial statements should be read in conjunction with our consolidated financial statements and notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2017.

**2. REVENUE RECOGNITION:**

***Change in Revenue Accounting***

Effective January 1, 2018, we adopted ASU No. 2014-9, “*Revenue from Contracts with Customers*” and the related amendments (“Topic 606”) using the modified retrospective method. Topic 606 was applied to all uncompleted contracts by recognizing the cumulative effect of initially applying Topic 606 as an adjustment to the opening balance of equity at January 1, 2018. Therefore, the comparative financial information for the three months ended March 31, 2017 has not been adjusted and continues to be reported under Topic 605, “*Revenue Recognition*”.

Accounting for contracts recognized over time involves the use of various techniques to estimate total contract revenue and costs. Contract estimates are based on various assumptions to project the outcome of future events that may span multiple years. We review and update our contract-related estimates regularly, and record adjustments as needed.

The adoption of Topic 606 caused changes for 1) the impact of volume discounts that represent a material right which will now be estimated and recognized over the contract life rather than on a prospective basis, and 2) revenue will be recognized over time as the products are manufactured under certain contracts where our product is customized rather than at shipment. These changes increased our net revenues in the three months ended March 31, 2018 by less than \$30,000, compared to revenue recognition under Topic 605 (see Note 15).

***Performance Obligations***

Under Topic 606, revenue is measured based on consideration specified in the contract with a customer. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in Topic 606. Revenue from all customers, including distributors, is recognized when a performance obligation is satisfied by transferring control of a product or service to a customer. Amounts billed to customers for shipping and handling are included in revenue. Taxes collected from customers and remitted to governmental authorities are excluded from revenue on the net basis of accounting. Accounts receivable are due under normal trade terms, typically 90 days or less.

Sales involving multiple performance obligations typically include the sale of an inspection system or metrology product, installation and training, and in some cases, an extended warranty. When a sale involves multiple performance obligations, we account for individual products and services separately if the customer can benefit from the product or service on its own or with other resources that are readily available to the customer and the product or service are separately identifiable from other promises in the arrangement. The consideration is allocated between separate performance obligations in proportion to their estimated stand-alone selling price. If the stand-alone selling price is not directly observable, we use the cost plus margin approach to estimate stand-alone selling price. Costs related to products delivered are recognized in the period revenue is recognized, including product warranties for periods ranging from 1 to 3 years (see Note 7).

Our performance obligations are satisfied at a point in time or over time as work progresses. Revenue from goods and services transferred to customers at a point in time accounted for \$13.2 million or 94% of our revenue in the three months ended March 31, 2018. Revenue on these contracts is recognized when obligations under the terms of the contract with our customer are satisfied; generally with the transfer of control upon shipment. Sales of some products may require customer acceptance due to performance or other acceptance criteria that is considered more than a formality. For these product sales, revenue is recognized upon notification of customer acceptance.

Revenue from products and services transferred to customers over time accounted for \$900,000 or 6% of our revenue in the three months ended March 31, 2018. Periodically OEM sensor product arrangements will create an asset with no alternative use and include an enforceable right to payment for cost plus margin. For these arrangements control is transferred over the manufacturing process; therefore, revenue is recognized over time utilizing an input method based on actual costs incurred in the manufacturing process to date relative to total expected production costs. For certain longer duration 3D scanning service projects, we progress bill as the services are performed. These arrangements will create an asset with no alternative use and include an enforceable right to payment. For these arrangements, control is transferred over the hours incurred to complete the scanning project; therefore, revenue is recognized over time utilizing an input method based on actual hours incurred relative to total projected project hours. For maintenance and extended warranty contracts, revenue is recognized over time on a straight-line basis over the term of the contract as the customer simultaneously receives and consumes the benefits of the coverage.

### **Contract Balances**

Contract assets consist of unbilled amounts from sales where we recognize the revenue over time and the revenue recognized exceeds the amount billed to the customer at a point in time. Accounts receivable are recorded when the right to payment becomes unconditional. Contract liabilities consist of payments received in advance of performance under the contract. Contract liabilities are recognized as revenue when we perform under the contract.

<b>(In thousands)</b>	<b>March 31, 2018</b>	<b>January 1, 2018</b>
Contract assets, included in other current assets	\$ 10	\$ —
Contract liabilities, included in advance customer payments/other liabilities	\$ 568	\$ 443

Changes in contract assets in the three months ended March 31, 2018 were inconsequential. Changes in contract liabilities primarily resulted from reclassification of beginning contract liabilities to revenue as performance obligations were satisfied, or for cash received in advance and not recognized as revenue. Amounts reclassified from beginning contract liabilities to revenue in the three months ended March 31, 2018 totaled \$57,000. See Note 7 for changes in contractual obligations related to deferred warranty revenue. Unsatisfied performance obligations are generally expected to be recognized as revenue over the next one to three years. There were no impairment losses for contract assets in the three months ended March 31, 2018.

### **Practical Expedients**

We generally expense incremental costs of obtaining a contract when incurred because the amortization period for these costs would be less than one year. These costs primarily relate to sales commissions and are recorded in selling, general and administrative expense in our consolidated statements of operations.

We do not disclose the value of unsatisfied performance obligations for contracts with an original expected length of one year or less. We do not adjust the promised amount of consideration for the effects of a significant financing component if we expect, at contract inception, that the period between when we transfer a promised good or service to a customer and when the customer pays for that good or service will be one year or less.

### **3. MARKETABLE SECURITIES:**

Our investments in marketable securities are classified as available-for-sale and consist of the following:

<b>(In thousands)</b>	<b>March 31, 2018</b>			
	<b>Cost</b>	<b>Unrealized Gains</b>	<b>Unrealized Losses</b>	<b>Fair Value</b>
<b>Short-Term</b>				
U.S. government and agency obligations	\$ 3,857	\$ —	\$ (15)	\$ 3,842
Corporate debt securities and certificates of deposit	1,969	1	(6)	1,964
Asset backed securities	365	—	(1)	364
Marketable securities – short-term	<u>\$ 6,191</u>	<u>\$ 1</u>	<u>\$ (22)</u>	<u>\$ 6,170</u>
<b>Long-Term</b>				
U.S. government and agency obligations	\$ 5,595	\$ 1	\$ (52)	\$ 5,544
Corporate debt securities and certificates of deposit	938	—	(13)	925
Asset backed securities	3,388	—	(32)	3,356
Equity security	42	41	—	83
Marketable securities – long-term	<u>\$ 9,963</u>	<u>\$ 42</u>	<u>\$ (97)</u>	<u>\$ 9,908</u>

(In thousands)	December 31, 2017			
	Cost	Unrealized Gains	Unrealized Losses	Fair Value
<b>Short-Term</b>				
U.S. government and agency obligations	\$ 4,381	\$ —	\$ (13)	\$ 4,368
Corporate debt securities and certificates of deposit	1,792	—	(4)	1,788
Asset backed securities	515	—	(1)	514
Marketable securities – short-term	\$ 6,688	\$ —	\$ (18)	\$ 6,670
<b>Long-Term</b>				
U.S. government and agency obligations	\$ 4,801	\$ —	\$ (33)	\$ 4,768
Corporate debt securities and certificates of deposit	1,189	—	(10)	1,179
Asset backed securities	3,045	—	(16)	3,029
Equity security	42	55	—	97
Marketable securities – long-term	\$ 9,077	\$ 55	\$ (59)	\$ 9,073

(In thousands)	In Unrealized Loss Position For Less Than 12 Months		In Unrealized Loss Position For Greater Than 12 Months	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
<b>March 31, 2018</b>				
U.S. government and agency obligations	\$ 5,363	\$ (50)	\$ 3,237	\$ (17)
Corporate debt securities and certificates of deposit	475	(5)	1,586	(15)
Asset backed securities	2,040	(19)	1,533	(13)
Marketable securities – short-term	\$ 7,878	\$ (74)	\$ 6,356	\$ (45)
<b>December 31, 2017</b>				
U.S. government and agency obligations	\$ 5,593	\$ (29)	\$ 3,543	\$ (17)
Corporate debt securities and certificates of deposit	478	(2)	1,991	(12)
Asset backed securities	2,312	(9)	1,232	(8)
Marketable securities – long-term	\$ 8,383	\$ (40)	\$ 6,766	\$ (37)

Effective January 1, 2018, we adopted ASU No. 2016-01, *Recognition and Measurement of Financial Assets and Liabilities*, which impacted the accounting for our marketable equity security (see Note 15). Our investments in marketable debt securities all have maturities of less than five years. Net pre-tax unrealized losses for marketable securities of \$117,000 at March 31, 2018 and \$22,000 at December 31, 2017 have been recorded as a component of accumulated other comprehensive loss in stockholders' equity. We have determined that the net pre-tax unrealized losses for marketable debt securities at March 31, 2018 and December 31, 2017 were caused by fluctuations in interest rates and are temporary in nature. We review our marketable securities to identify and evaluate investments that have indications of possible impairment. Factors considered in determining whether a loss is other-than-temporary include the length of time and extent to which fair value has been less than the cost basis, credit quality and our ability and intent to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value. We received proceeds from the sale of marketable securities of \$70,000 in the three months ended March 31, 2018, and no gains or losses were recognized on the sale. No marketable securities were sold in the three months ended March 31, 2017.

Investments in marketable securities classified as cash equivalents of \$1.2 million at March 31, 2018 and \$1.6 million at December 31, 2017 consist of corporate debt securities and certificates of deposit. There were no unrealized gains or losses associated with any of these securities at March 31, 2018 or December 31, 2017.

Cash and marketable securities held by foreign subsidiaries totaled \$492,000 at March 31, 2018 and \$187,000 at December 31, 2017.



#### 4. FAIR VALUE MEASUREMENTS:

We determine the fair value of our assets and liabilities based on the exchange price that would be received for an asset or paid to transfer a liability (i.e., the exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value maximize the use of observable inputs and minimize the use of unobservable inputs. We use a fair value hierarchy with three levels of inputs, of which the first two are considered observable and the last is considered unobservable, to measure fair value. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1). The next highest priority is based on quoted prices for similar assets or liabilities in active markets or quoted prices for identical or similar assets or liabilities in non-active markets or other observable inputs (Level 2). The lowest priority is given to unobservable inputs (Level 3). The following provides information regarding fair value measurements for our marketable securities as of March 31, 2018 and December 31, 2017 according to the three-level fair value hierarchy:

(In thousands)	Fair Value Measurements at March 31, 2018 Using			
	Balance March 31, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Marketable securities:</b>				
U.S. government and agency obligations	\$ 9,386	\$ —	\$ 9,386	\$ —
Corporate debt securities and certificates of deposit	2,889	—	2,889	—
Asset backed securities	3,720	—	3,720	—
Equity security	83	83	—	—
Total marketable securities	\$ 16,078	\$ 83	\$ 15,995	\$ —

(In thousands)	Fair Value Measurements at December 31, 2017 Using			
	Balance December 31, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Marketable securities:</b>				
U.S. government and agency obligations	\$ 9,136	\$ —	\$ 9,136	\$ —
Corporate debt securities and certificates of deposit	2,967	—	2,967	—
Asset backed securities	3,543	—	3,543	—
Equity security	97	97	—	—
Total marketable securities	\$ 15,743	\$ 97	\$ 15,646	\$ —

During the three months ended March 31, 2018 and the year ended December 31, 2017, there were no transfers within the three level hierarchy. A significant transfer is recognized when the inputs used to value a security have been changed sufficiently to merit a transfer between the disclosed levels of the valuation hierarchy.

The fair value for our U.S. government and agency obligations, corporate debt securities and certificates of deposit and asset backed securities are determined based on valuations provided by external investment managers which obtain them from a variety of industry standard data providers. The fair value for our equity security is based on a quoted market price obtained from an active market.

The carrying amounts of financial instruments such as cash equivalents, accounts receivable, other assets, accounts payable, advance customer payments, accrued expenses and other liabilities are approximately equal to their related fair values due to their short-term maturities. Non-financial assets such as equipment and leasehold improvements, goodwill and intangible assets are subject to non-recurring fair value measurements if they are deemed impaired. We had no re-measurements of non-financial assets to fair value in the three months ended March 31, 2018 or the three months ended March 31, 2017.

## 5. ACCOUNTING FOR STOCK-BASED COMPENSATION:

We have three stock-based compensation plans that are administered by the Compensation Committee of the Board of Directors. We have an Employee Stock Incentive Plan for officers, other employees, consultants and independent contractors under which we have granted options and restricted stock units to officers and other employees, an Employee Stock Purchase Plan under which shares of our common stock may be acquired by employees at discounted prices, and a Non-Employee Director Stock Plan that provides for automatic grants of shares of our common stock to non-employee directors. New shares of our common stock are issued upon stock option exercises, vesting of restricted stock units, issuances of shares to board members and issuances of shares under the Employee Stock Purchase Plan.

### Employee Stock Incentive Plan

As of March 31, 2018, there were 327,839 shares of common stock reserved in the aggregate for issuance pursuant to future awards under our Employee Stock Incentive Plan and 576,487 shares of common stock reserved in the aggregate for issuance pursuant to outstanding awards under our Employee Stock Incentive Plan. Although our Compensation Committee has authority to issue options, restricted stock, restricted stock units, share grants and other share based benefits under our Employee Stock Incentive Plan, to date only restricted stock units and stock options have been granted under the plan. Options have been granted at an option price per share equal to the market value of our common stock on the date of grant, vest over a four year period and expire seven years after the date of grant. Restricted stock units vest over a four year period and entitle the holders to one share of our common stock for each restricted stock unit. Reserved shares underlying outstanding awards, including options and restricted shares, that are forfeited are available under the Employee Stock Incentive Plan for future grants.

### Non-Employee Director Stock Plan

As of March 31, 2018, there were 68,000 shares of common stock reserved in the aggregate for issuance pursuant to future restricted share awards under our Non-Employee Director Stock Plan and 16,000 shares of common stock reserved in the aggregate for issuance pursuant to outstanding stock option awards under our Non-Employee Director Stock Plan. Under the terms of the plan, each non-employee director will automatically be granted 2,000 shares of our common stock on the date of each annual meeting at which such director is elected to serve on the board. At our May 11, 2017 annual meeting, our shareholders, upon recommendation of the Board of Directors, approved amendments to the Non-Employee Director Stock Plan that eliminated annual stock option grants for non-employee directors and provide for share grants under the Non-Employee Director Stock Plan which will vest in four equal quarterly installments during the year after the grant date provided the non-employee director is still serving as a director on the applicable vesting date.

Pursuant to the plan, on the date of our 2017 annual meeting, we issued a total of 8,000 shares of our common stock to our non-employee directors. The shares had an aggregate fair market value on the date of grant equal to \$167,000 (grant date fair value of \$20.90 per share).

### Stock Option Activity

The following is a summary of stock option activity in the three months ended March 31, 2018:

	Options Outstanding	Weighted Average Exercise Price Per Share
Outstanding, December 31, 2017	568,525	\$ 10.24
Granted	—	—
Exercised	(21,250)	8.55
Expired	—	—
Forfeited	—	—
Outstanding, March 31, 2018	547,275	\$ 10.30
Exercisable, March 31, 2018	345,563	\$ 8.55

The intrinsic value of an option is the amount by which the market price of the underlying stock exceeds the option's exercise price. For options outstanding at March 31, 2018, the weighted average remaining contractual term of all outstanding options was 4.2 years and their aggregate intrinsic value was \$4.5 million. At March 31, 2018, the weighted average remaining contractual term of options that were exercisable was 3.4 years and their aggregate intrinsic value was \$3.3 million. The aggregate intrinsic value of stock options exercised in the three months ended March 31, 2018 was \$215,000. We received proceeds from stock option exercises of \$182,000 in the three months ended March 31, 2018 and \$321,000 in the three months ended March 31, 2017. The aggregate fair value of options that vested in the three months ended March 31, 2018 was \$204,000.

## Restricted Shares and Restricted Stock Units

Restricted shares are granted under our Non-Employee Director Stock Plan. Restricted stock units are granted under our Employee Stock Incentive Plan. There were no restricted shares or restricted stock units granted in the three months ended March 31, 2018. The aggregate fair value of outstanding restricted shares and restricted stock units based on the closing share price of our common stock on March 31, 2018 was \$850,000. The aggregate fair value of restricted shares and restricted stock units that vested, based on the closing share price of our common stock on the vesting date, in the three months ended March 31, 2018 was \$106,000.

A summary of activity for non-vested restricted stock units and restricted shares in the three months ended March 31, 2018 is as follows:

<b>Non-vested restricted stock units and restricted shares</b>	<b>Shares</b>	<b>Weighted Average Grant Date Fair Value</b>
Non-vested at December 31, 2017	54,212	\$ 14.86
Granted	—	—
Vested	(7,000)	10.95
Forfeited	—	—
Non-vested at March 31, 2018	47,212	\$ 15.44

## Employee Stock Purchase Plan

We have an Employee Stock Purchase Plan available to eligible U.S. employees. Under terms of the plan, eligible employees may designate from 1% to 10% of their compensation to be withheld through payroll deductions, up to a maximum of \$6,500 in each plan year, for the purchase of common stock at 85% of the lower of the market price on the first or last day of the offering period. There were no shares issued under this plan in the three months ended March 31, 2018 or the three months ended March 31, 2017. As of March 31, 2018, 40,872 shares remain available for future issuance under the Employee Stock Purchase Plan. At our 2018 annual meeting, our shareholders will be asked to adopt an amendment to the plan increasing the number of shares authorized for issuance there-under by 150,000.

## Stock Based Compensation Information

All stock based compensation awarded to our employees and non-employee directors, representing grants of shares, stock options and restricted stock units are recognized as an expense in our consolidated statement of operations based on the grant date fair value of the award. We utilize the straight-line method of expense recognition over the vesting period for our options subject to time-based vesting restrictions. The fair value of stock options granted has been determined using the Black-Scholes model. We have classified equity-based compensation expenses within our statement of operations in the same manner as our cash based compensation costs.

Stock based compensation expense in the three months ended March 31, 2018 totaled \$259,000, and included \$125,000 for stock options, \$34,000 for our Employee Stock Purchase Plan, \$59,000 for unvested restricted stock units and \$41,000 for unvested restricted shares.

Stock based compensation expense in the three months ended March 31, 2017 totaled \$188,000, and included \$114,000 for stock options, \$26,000 for our Employee Stock Purchase Plan and \$48,000 for unvested restricted stock units.

At March 31, 2018, the total unrecognized compensation cost related to outstanding non-vested stock based compensation arrangements was \$1.7 million, and the related weighted average period over which this cost is expected to be recognized is 1.92 years.

## 6. CHANGES IN STOCKHOLDERS' EQUITY:

A reconciliation of the changes in our stockholders' equity is as follows:

(In thousands)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
	Shares	Amount			
Balance, December 31, 2017	6,980	\$ 34,080	\$ (1,409)	\$ 19,611	\$ 52,282
Increase related to adoption of ASU 2016-01	—	—	(44)	44	—
Decrease related to adoption of ASU 2014-09	—	—	—	(218)	(218)
Exercise of stock options, vesting of restricted stock units and grants of restricted shares, net of shares exchanged as payment	26	182	—	—	182
Stock-based compensation	—	259	—	—	259
Other comprehensive income, net of tax	—	—	189	—	189
Net income	—	—	—	(173)	(173)
Balance, March 31, 2018	<u>7,006</u>	<u>\$ 34,521</u>	<u>\$ (1,264)</u>	<u>\$ 19,264</u>	<u>\$ 52,521</u>

See Note 15 for further discussion regarding the impact of our adoption of ASU No. 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities*. See Note 2 and Note 15 for further discussion regarding the impact of our adoption of ASU No. 2014-09, *Revenue from Contracts with Customers*, on our consolidated financial statements.

## 7. OTHER FINANCIAL STATEMENT DATA:

The components of our inventories are as follows:

(In thousands)	March 31, 2018	December 31, 2017
Raw materials and purchased parts	\$ 8,159	\$ 7,383
Work in process	1,782	1,666
Finished goods	4,732	5,344
Total inventories	<u>\$ 14,673</u>	<u>\$ 14,393</u>

The components of our accrued expenses are as follows:

(In thousands)	March 31, 2018	December 31, 2017
Wages and benefits	\$ 1,121	\$ 1,328
Warranty liability	690	713
Other	530	244
	<u>\$ 2,341</u>	<u>\$ 2,285</u>

### Warranty costs:

We provide for the estimated cost of product warranties, which cover products for periods ranging from 1 to 3 years, at the time revenue is recognized. While we engage in extensive product quality programs and processes, including actively monitoring and evaluating the quality of component suppliers, warranty obligations are affected by product failure rates, material usage and service delivery costs incurred in correcting a product failure. If actual product failure rates, material usage or service delivery costs differ from our estimates, revisions to the estimated warranty liability would be required and could be material. At the end of each reporting period, we revise our estimated warranty liability based on these factors. The current portion of our warranty liability is included as a component of accrued expenses. The long-term portion of our warranty liability is included as a component of other liabilities.

A reconciliation of the changes in our estimated warranty liability is as follows:

(In thousands)	Three Months Ended March 31,	
	2018	2017
Balance at beginning of period	\$ 767	\$ 790
Accrual for warranties	103	67
Warranty revision	(26)	(35)
Settlements made during the period	(101)	(55)
Balance at end of period	743	767
Current portion of estimated warranty liability	(690)	(705)
Long-term estimated warranty liability	\$ 53	\$ 62

#### Deferred warranty revenue:

The current portion of our deferred warranty revenue is included as a component of advance customer payments. The long-term portion of our deferred warranty revenue is included as a component of other liabilities. A reconciliation of the changes in our deferred warranty revenue is as follows:

(In thousands)	Three Months Ended March 31,	
	2018	2017
Balance at beginning of period	\$ 259	\$ 346
Revenue deferrals	111	88
Amortization of deferred revenue	(120)	(92)
Total deferred warranty revenue	250	342
Current portion of deferred warranty revenue	(231)	(303)
Long-term deferred warranty revenue	\$ 19	\$ 39

#### 8. INTANGIBLE ASSETS:

Intangible assets consist of the following:

(In thousands)	March 31, 2018			December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Patents	\$ 2,672	\$ (2,459)	\$ 213	\$ 2,687	\$ (2,463)	\$ 224
Software	206	(119)	87	206	(111)	95
Marketing assets and customer relationships	101	(49)	52	101	(45)	56
Non-compete agreements	101	(101)	—	101	(96)	5
	\$ 3,080	\$ (2,728)	\$ 352	\$ 3,095	\$ (2,715)	\$ 380

Amortization expense in the three months ended March 31, 2018 and 2017 is as follows:

(In thousands)	Three Months Ended March 31,	
	2018	2017
Patents	\$ 28	\$ 25
Software	8	8
Marketing assets and customer relationships	4	3
Non-compete agreements	5	6
	\$ 45	\$ 42

Amortization of patents has been classified as research and development expense in our statements of operations. Estimated aggregate amortization expense based on current intangibles for the next five years is expected to be as follows: \$105,000 for the remainder of 2018; \$119,000 in 2019; \$88,000 in 2020; \$21,000 in 2021; \$9,000 in 2022; and \$9,000 in 2023.

Intangible and other long lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. An impairment loss would be recognized when future undiscounted cash flows expected to result from use of the asset and its eventual disposition are less than the carrying amount.

#### 9. REVENUE CONCENTRATIONS, SIGNIFICANT CUSTOMERS AND GEOGRAPHIC AREAS:

The following summarizes our revenue by product line:

<b>(In thousands)</b>	<b>Three months ended March 31,</b>	
	<b>2018</b>	<b>2017</b>
High Precision 3D and 2D Sensors	\$ 5,055	\$ 3,904
Semiconductor Sensors	3,161	2,317
SMT Inspection Systems, Metrology Products and Services	5,904	5,699
Total	\$ 14,120	\$ 11,920

Export sales as a percentage of total sales in the three months ended March 31, 2018 were 72%. Export sales as a percentage of total sales in the three months ended March 31, 2017 were 79%. Virtually all of our export sales are negotiated, invoiced and paid in U.S. dollars. Export sales by geographic area are summarized as follows:

<b>(In thousands)</b>	<b>Three Months Ended March 31,</b>	
	<b>2018</b>	<b>2017</b>
Americas	\$ 71	\$ 419
Europe	2,580	2,815
Asia	7,461	6,162
Other	105	39
Total export sales	\$ 10,217	\$ 9,435

In the three months ended March 31, 2018, sales to significant customer A accounted for 10% of our total revenue and sales to significant customer B accounted for 11% of our total revenue. As of March 31, 2018, accounts receivable from significant customer A were \$947,000 and accounts receivable from significant customer B were \$1.2 million.

#### 10. NET LOSS PER SHARE:

Net loss per basic and diluted share is computed by dividing net loss by the weighted average number of common shares outstanding during the period. Common equivalent shares consist of shares of common stock to be issued upon exercise of stock options, the vesting of restricted shares and restricted stock units and the purchase of shares under our Employee Stock Purchase Plan, as calculated using the treasury stock method. All common equivalent shares were excluded from the calculations of net loss per diluted share due to their anti-dilutive effect. The components of net loss per basic and diluted share are as follows:

<b>(In thousands except per share amounts)</b>	<b>Net Loss</b>	<b>Weighted Average Shares Outstanding</b>	<b>Per Share Amount</b>
<b>Three Months Ended March 31, 2018</b>			
Basic	\$ (173)	6,986	\$ (0.02)
Dilutive effect of common equivalent shares	—	—	—
Dilutive	\$ (173)	6,986	\$ (0.02)

(In thousands except per share amounts)	Net Loss	Weighted Average Shares Outstanding	Per Share Amount
<b>Three Months Ended March 31, 2017</b>			
Basic	\$ (214)	6,912	\$ (0.03)
Dilutive effect of common equivalent shares	—	—	—
Dilutive	\$ (214)	6,912	\$ (0.03)

Potentially dilutive shares excluded from the calculations of net loss per diluted share due to their anti-dilutive effect were as follows: 615,000 shares in the three months ended March 31, 2018; and 611,000 shares in the three months ended March 31, 2017.

#### 11. OTHER COMPREHENSIVE INCOME (LOSS):

Reclassification adjustments are made to avoid double counting for items included in comprehensive income (loss) that are also recorded as part of net loss. Other comprehensive income (loss) consists of the following:

(In thousands)	Three Months Ended March 31, 2018			Three Months Ended March 31, 2017		
	Before Tax	Tax Effect	Net of Tax Amount	Before Tax	Tax Effect	Net of Tax Amount
Foreign currency translation adjustments	\$ 220	\$ —	\$ 220	\$ 269	\$ (79)	\$ 190
Net changes related to available-for-sale securities:						
Unrealized losses	(40)	9	(31)	20	(7)	13
Reclassification adjustments	—	—	—	—	—	—
Total net changes related to available-for-sale securities	(40)	9	(31)	20	(7)	13
Other comprehensive income (loss)	\$ 180	\$ 9	\$ 189	\$ 289	\$ (86)	\$ 203

At March 31, 2018 and March 31, 2017, components of accumulated other comprehensive loss were as follows:

(In thousands)	Foreign Currency Translation Adjustments	Available- for-Sale Securities	Accumulated Other Comprehensive Loss
Balances at December 31, 2017	\$ (1,394)	\$ (15)	\$ (1,409)
Decrease related to adoption of ASU 2016-01 (See Note 15)	—	(44)	(44)
Other comprehensive income before reclassifications	220	(31)	189
Amounts reclassified from accumulated other comprehensive loss	—	—	—
Total change for the period	220	(75)	145
Balances at March 31, 2018	\$ (1,174)	\$ (90)	\$ (1,264)

(In thousands)	Foreign Currency Translation Adjustments	Available- for-Sale Securities	Accumulated Other Comprehensive Loss
Balances at December 31, 2016	\$ (1,928)	\$ (12)	\$ (1,940)
Other comprehensive income before reclassifications	190	13	203
Amounts reclassified from accumulated other comprehensive loss	—	—	—
Total change for the period	190	13	203
Balances at March 31, 2017	\$ (1,738)	\$ 1	\$ (1,737)

## **12. INCOME TAXES:**

We recorded an income tax benefit of \$83,000 in the three months ended March 31, 2018, compared to an income tax benefit of \$413,000 in the three months ended March 31, 2017. Our income tax benefit in the three months ended March 31, 2018, reflects an approximate 20% effective income tax rate and includes \$35,000 of excess tax benefits from employee share-based payments. Our income tax benefit in the three months ended March 31, 2017 reflects an approximate 33% effective income tax rate and includes \$208,000 of excess tax benefits from employee share-based payments. The decrease in our effective income tax rate in the three months ended March 31, 2018 is primarily due to the new lower tax rates reflected in the Tax Cuts and Jobs Act passed by the U.S. Congress in December 2017.

We have significant deferred tax assets as a result of temporary differences between taxable income on our tax returns and U.S. GAAP income, research and development tax credit carry forwards and federal, state and foreign net operating loss carry forwards. A deferred tax asset generally represents future tax benefits to be received when temporary differences previously reported in our consolidated financial statements become deductible for income tax purposes, when net operating loss carry forwards are applied against future taxable income, or when tax credit carry forwards are utilized on our tax returns. We assess the realizability of our deferred tax assets and the need for a valuation allowance based on the guidance provided in current financial accounting standards.

Significant judgment is required in determining the realizability of our deferred tax assets. The assessment of whether valuation allowances are required considers, among other matters, the nature, frequency and severity of any current and cumulative losses, forecasts of future profitability, the duration of statutory carry forward periods, our experience with loss carry forwards not expiring unused and tax planning alternatives. In analyzing the need for valuation allowances, we first considered our history of cumulative operating results for income tax purposes over the past three years in each of the tax jurisdictions where we operate, our financial performance in recent quarters, statutory carry forward periods and tax planning alternatives. Finally, we considered both our near-term and long-term financial outlook. After considering all available evidence both positive and negative, we concluded that recognition of valuation allowances for substantially all of our U.S. and Singapore deferred tax assets was not required at March 31, 2018.

The Inland Revenue Authority of Singapore recently initiated a review of our 2016 and 2015 income tax returns. We do not presently anticipate that the outcome of these audits will have a significant impact on our financial position or results of operations.

## **13. SHARE REPURCHASE:**

Our Board of Directors has authorized a \$3.0 million share repurchase program, of which \$2.8 million remains available for future share repurchases. The common stock may be acquired from time to time in open market transactions, block purchases and other transactions complying with the Securities and Exchange Commission's Rule 10b-18. The share repurchase program will terminate on September 30, 2018. During the three months ended March 31, 2018, no shares were repurchased under this program.

## **14. CONTINGENCIES:**

We are periodically a defendant in miscellaneous claims and disputes in the ordinary course of business. While the outcome of these matters cannot be predicted with certainty, management presently believes the disposition of these matters will not have a material effect on our financial position, results of operations or cash flows.

In the normal course of business to facilitate sales of our products and services, we at times indemnify other parties, including customers, with respect to certain matters. In these instances, we have agreed to hold the other parties harmless against losses arising out of intellectual property infringement or other types of claims. These agreements may limit the time within which an indemnification claim can be made, and almost always limit the amount of the claim. It is not possible to determine the maximum potential liability under these indemnification agreements due to the limited history of prior indemnification claims and the unique facts and circumstances involved in each particular agreement. Historically, payments made, if any, under these agreements have not had a material impact on our operating results, financial position or cash flows.



## 15. RECENT ACCOUNTING DEVELOPMENTS:

In May 2014, the FASB issued guidance on the recognition of revenue from contracts with customers, Topic 606. Revenue recognition depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The guidance also requires disclosures regarding the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. We performed a review of the requirements of the new guidance and have identified which of our revenue streams will be within the scope of ASU 2014-09. We applied the five-step model of the new standard to a selection of contracts within each of our revenue streams, and compared the results to our current accounting practices. We also performed detailed contract reviews to complete necessary adjustments to our existing accounting policies, and implemented changes to our processes and internal controls to capture new data and address changes in financial reporting. We expanded our consolidated financial statement disclosures to comply with the requirements of Topic 606. We adopted the new standard using the modified retrospective method, with the cumulative effect of initially applying the guidance recognized at the date of initial application. Our adoption of Topic 606 on January 1, 2018 resulted in a \$218,000 decrease in retained earnings to record the cumulative effect adjustment. Adoption of Topic 606 in the three months ended March 31, 2018 increased our revenues by less than \$30,000 and decreased our net loss by less than \$20,000, compared to revenue recognition under Topic 605.

In January 2016, the FASB issued ASU No. 2016-01, *Recognition and Measurement of Financial Assets and Liabilities*, which revised the accounting related to (1) the classification and measurement of investments in equity securities and (2) the presentation of certain fair value changes for financial liabilities measured at fair value. The ASU also amended certain disclosure requirements associated with the fair value of financial instruments. The new guidance requires the fair value measurement of investments in equity securities and other ownership interests in an entity that do not result in consolidation and are not accounted for under the equity method. Entities will need to measure these investments and recognize changes in fair value in net income. Entities will no longer be able to recognize unrealized holding gains and losses on equity securities they classify under current guidance as available-for-sale in other comprehensive income. This standard is effective beginning January 1, 2018 via a cumulative-effect adjustment to beginning retained earnings, except for guidance relative to equity securities without readily determinable fair values which is applied prospectively. Our adoption of ASU 2016-01 on January 1, 2018 resulted in a \$44,000 increase in retained earnings and accumulated other comprehensive loss.

In February 2016, the FASB issued new lease accounting guidance (ASU No. 2016-02, *Leases*). Under the new guidance, at the commencement date, lessees will be required (a) to recognize a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis, and (b) to record a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. The new guidance is not applicable for leases with a term of 12 months or less. Lessor accounting is largely unchanged. U.S. public companies are required to apply the amendments in ASU 2016-02 for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early application is permitted. Lessees (for capital and operating leases) and lessors (for sales-type, direct financing, and operating leases) must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach would not require any transition accounting for leases that expired before the earliest comparative period presented. Lessees and lessors may not apply a full retrospective transition approach. We are currently evaluating the impact of the new guidance on our consolidated financial statements. We are monitoring the FASB's recent deliberations surrounding a simplified transition approach and are evaluating the practical expedients provided by that approach as well as those already included in the standard. When implemented, the standard is expected to have a material impact as operating leases will be recognized on our consolidated balance sheet. The impact on our results of operations is being evaluated. The impact of this ASU is non-cash in nature and will not affect our cash flows.

In January 2017, the Financial Accounting Standards Board (FASB) issued guidance on simplifying the test for goodwill impairment (ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment*). Under the new standard, goodwill impairment would be measured as the amount by which a reporting unit's carrying value exceeds its fair value, but not in an amount in excess of the carrying value of goodwill. The new guidance eliminates the requirement to determine goodwill impairment by calculating the implied fair value of goodwill by hypothetically assigning the fair value of a reporting unit to all of its assets and liabilities as if that reporting unit had been acquired in a business combination. The new guidance is to be applied prospectively to impairment tests beginning January 1, 2020, with early adoption permitted. We are currently evaluating when we will adopt the new guidance.

In February 2018, the FASB issued ASU 2018-02, *Reclassification of Tax Effects from Accumulated Other Comprehensive Income*, which allows entities to elect an option to reclassify the stranded tax effects related to the application of the Tax Cuts and Jobs Act from accumulated other comprehensive loss to retained earnings. The guidance is effective January 1, 2019 with early adoption permitted, and can be applied either in the period of adoption or retrospectively to all applicable periods. We are currently evaluating the impact of the new guidance on our consolidated financial statements.

## ITEM 2 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

### FORWARD LOOKING STATEMENTS:

The following management's discussion and analysis contains a number of estimates and predictions that are forward looking statements rather than statements based on historical fact. Among other matters, we discuss (i) our level of anticipated revenues, gross margins, and expenses; (ii) the timing of orders and shipments of our existing products, particularly the SQ3000, our 3D automated optical inspection (AOI) system; (iii) the timing of initial revenue and projected improvements in gross margins from sales of new products that have been recently introduced, that we have under development or that we anticipate introducing in the future; (iv) the amount of anticipated revenue and potential revenue opportunity from recently introduced new products or potential new products we may launch in the future; (v) our assessment of trends in the general economy and their impact on the markets for our products and (vi) the impact of currency fluctuations on our operations. Although we have made these statements based on our experience and expectations regarding future events, there may be events or factors that we have not anticipated, and the accuracy of our statements and estimates are subject to a number of risks, including those risks identified in our Annual Report on Form 10-K for the year ended December 31, 2017.

### RESULTS OF OPERATIONS

#### General

Our recent and planned product introductions are designed to strengthen our competitive position in our current markets and expand into adjacent markets. We believe 3D inspection and metrology represents a high-growth segment for both the surface mount technology (SMT) and semiconductor capital equipment markets. We also anticipate significant growth opportunities for 3D measurement and inspection in the emerging market for advanced packaging applications. For these reasons, we are working to strengthen our position as a leading global developer and manufacturer of high-precision 3D sensors. A key element in our strategy is the continued sale and development of new high precision 3D sensors based on our proprietary multi-reflection suppression (MRS) technology.

We believe that MRS is a break-through optical technology for high precision inspection and metrology, with the potential to expand our markets in the future. Manufacturing yield challenges as products become more complex are driving the need for inspection and metrology. We expect a growing number of opportunities in the markets for SMT and semiconductor inspection, because our 3D MRS technology platform is well suited for many of these applications, particularly advanced packaging and complex mobile devices. We are taking advantage of these market trends by deploying our 3D MRS sensor technology in the following products:

- High-precision 3D sensor subsystems. We have entered into a mutually exclusive agreement to supply KLA-Tencor with these subsystems for its back-end semiconductor packaging inspection systems. We also have entered into an agreement to supply Nordson-YESTECH with high precision 3D sensor subsystems for its inspection systems serving the SMT market.
- The SQ3000, our 3D AOI system, which is designed to expand our presence in SMT and semiconductor markets requiring high precision measurement and inspection. In these markets, identifying defects has become highly challenging and critical due to smaller and more complex electronics packaging and increasing component density on circuit boards.
- SQ3000™ 3D CMM, which was launched in the second half of 2017. Manufacturers in a variety of industries, including SMT, semiconductor and consumer electronics, can use this product as an in-line or off-line metrology tool to help solve complex manufacturing and product quality challenges.

Revenue from MRS based products increased to \$4.3 million in the three months ended March 31, 2018, up from \$2.3 million in the three months ended March 31, 2017. We believe we will be able to increase sales of products based on our MRS technology in the SMT, semiconductor and metrology markets, including the market that requires inspection and metrology for advanced packaging applications. We intend to increase sales of these products by utilizing new OEM partners and system integrators and by expanding direct sales to end-user customers.

We have significantly advanced our MRS-enabled 3D sensor technology as part of a research initiative aimed at applying our 3D MRS technology to mid-end and front-end semiconductor inspection and the emerging semiconductor advanced packaging market. Our MRS technology is now able to inspect cracks and other defects as small as 30 microns in wafer dies, which makes our MRS technology suitable for many mid-end semiconductor and advanced packaging inspection and metrology applications. We are currently demonstrating this technology to semiconductor manufacturers, and we expect that initial sales of products based on MRS-enabled technology for mid-end semiconductor inspections will occur before the end of 2018.

We have continued to invest in our WaferSense® family of products. In response to ongoing input from semiconductor and flat panel display manufacturers, we are developing additional product offerings that can be used in semiconductor fabs and flat panel display factories. Strong future sales growth is anticipated for the WaferSense® family of products.

Our backlog was \$12.1 million at March 31, 2018, an increase from \$11.4 million at December 31, 2017 and \$10.9 million at March 31, 2017. Over the longer term, we believe that anticipated sales growth of our 3D MRS-enabled products and WaferSense products should increase our revenues and net income. We believe that we have the resources required to attain our growth objectives, given our available cash and marketable securities balances totaling \$22.9 million at March 31, 2018.

## Revenues

Our revenues increased by 18% to \$14.1 million in the three months ended March 31, 2018, from \$11.9 million in the three months ended March 31, 2017. The following table sets forth revenues by product line for the three months ended March 31, 2018 and 2017:

(In thousands)	Three Months Ended March 31,	
	2018	2017
High Precision 3D and 2D Sensors	\$ 5,055	\$ 3,904
Semiconductor Sensors	3,161	2,317
Inspection Systems, Metrology Products and Services	5,904	5,699
Total	\$ 14,120	\$ 11,920

Revenue from sales of high precision 3D and 2D sensors increased by \$1.2 million or 29% to \$5.1 million in the three months ended March 31, 2018, from \$3.9 million in the three months ended March 31, 2017. The revenue increase in the three months ended March 31, 2018 resulted from a nearly 300% increase in sales of 3D MRS-enabled sensors, offset in part by a small reduction in sales of legacy 2D LaserAlign sensors. Sales of high precision 3D and 2D sensors are dependent on the success of our OEM partners selling products that incorporate our sensors. Quarterly sales of high precision 3D and 2D sensors are prone to significant fluctuations, both sequentially and on a year-over-year basis.

Revenue from sales of semiconductor sensors, principally our WaferSense product line, increased by \$844,000 or 36% to \$3.2 million in the three months ended March 31, 2018, from \$2.3 million in the three months ended March 31, 2017. The sales increase reflects the growing acceptance of these products as important productivity enhancement tools by semiconductor manufacturers, increased customer awareness of our semiconductor sensor products and improved account penetration at major semiconductor manufacturers and capital equipment suppliers. We anticipate that the benefits from growing market awareness and new product introductions will lead to additional WaferSense sales in future periods.

Revenue from sales of inspection systems, metrology products and services increased by \$205,000 or 4% to \$5.9 million in the three months ended March 31, 2018, from \$5.7 million in the three months ended March 31, 2017. The sales increase resulted from an approximate \$500,000 or 26% increase in sales of SQ3000 3D AOI and SQ3000™ 3D CMM system products, offset in part by lower sales of legacy products.

We believe a growing number of companies are transitioning from 2D AOI to 3D AOI systems to meet the increasingly demanding inspection requirements of the electronics and industrial markets. We believe sales of our new 3D MRS enabled AOI products will represent an increasing percentage of our total AOI and SPI product sales in the future. We expect that the competitive advantages of our unique 3D MRS technology will provide us with an opportunity to capture significant market share in the 3D AOI systems market. We believe that our future revenue growth from sales of metrology products will be determined in large part by market acceptance of our new CyberGage®360 and SQ3000™ 3D CMM products.

Export revenue totaled \$10.2 million or 72% of total revenue in the three months ended March 31, 2018, compared to \$9.4 million or 79% of total revenue in the three months ended March 31, 2017. Export revenue as a percentage of total revenue was lower in the three months ended March 31, 2018, when compared to the three months ended March 31, 2017, due to the decrease in sales of legacy 2D AOI and SPI inspection system products, a higher proportion of which are generally sold outside the United States as compared to our other products.

## Cost of Revenues and Gross Margin

Cost of revenues increased by \$1.4 million or 21% to \$7.9 million in the three months ended March 31, 2018, from \$6.5 million in the three months ended March 31, 2017. The increase in cost of revenues was mainly due to the corresponding 18% increase in revenues in the three months ended March 31, 2018. Items included in cost of revenues that fluctuate with the level of sales include raw materials, direct labor and factory overhead costs.

Total gross margin as a percentage of revenue was 44% in the three months ended March 31, 2018, compared to 45% in the three months ended March 31, 2017. The reduction in gross margin percentage was mainly due to pricing pressures on 2D and 3D inspection systems in the broader SMT market, offset in part by a change in mix of products sold. Sales of higher margin WaferSense products constituted a slightly larger percentage of our total revenue in the three months ended March 31, 2018, compared to the three months ended March 31, 2017.

Our markets are highly price competitive, particularly the electronic assembly market, resulting in continual pressure on our gross margins. We compensate for pricing pressure by introducing new products with more features and improved performance and through manufacturing cost reduction programs. Sales of many products that we have recently introduced or are about to introduce, including our SQ3000 3D AOI products and SQ3000™ 3D CMM products, 3D MRS sensors and WaferSense sensor products have, or are expected to have, more favorable gross margins than many of our existing products.

## Operating Expenses

Research and development expenses were \$2.2 million or 15% of revenue in the three months ended March 31, 2018, compared to \$2.0 million or 16% of revenue in the three months ended March 31, 2017. The increase in research and development expenses was due to higher wages for additions to staff, pay increases and bonus accruals for employees who work in research and development. Current research and development expenditures are primarily focused on continued development of our MRS technology, including 3D sensor subsystems, commercialization of a sensor for mid-end semiconductor inspection, and continued development of new applications for our WaferSense product line.

Selling, general and administrative expenses were \$4.3 million or 31% of revenue in the three months ended March 31, 2018, compared to \$4.0 million or 33% of revenue in the three months ended March 31, 2017. The increase in selling, general and administrative expenses was due to higher commissions on the corresponding 18% increase in sales, additional spending to strengthen global sales and marketing, and higher bonus accruals.

## Interest Income and Other

Interest income and other includes interest earned on investments and gains and losses associated with foreign currency transactions, including intercompany financing transactions associated with our subsidiaries in the United Kingdom, Singapore and China. We recognized gains from foreign currency transactions, primarily intercompany financing transactions, of \$43,000 in the three months ended March 31, 2018, compared to losses of \$106,000 in the three months ended March 31, 2017.

## Income Taxes

We recorded an income tax benefit of \$83,000 in the three months ended March 31, 2018, compared to an income tax benefit of \$413,000 in the three months ended March 31, 2017. Our income tax benefit in the three months ended March 31, 2018, reflects an approximate 20% effective income tax rate, and includes \$35,000 of excess tax benefits from employee share-based payments. Our income tax benefit in the three months ended March 31, 2017 reflects an approximate 33% effective income tax rate, and includes \$208,000 of excess tax benefits from employee share-based payments. The decrease in our effective income tax rate in the three months ended March 31, 2018 is primarily due to the new lower tax rates reflected in the Tax Cuts and Jobs Act passed by the U.S. Congress in December 2017.

We have significant deferred tax assets as a result of temporary differences between taxable income on our tax returns and U.S. GAAP income, research and development tax credit carry forwards and federal, state and foreign net operating loss carry forwards. A deferred tax asset generally represents future tax benefits to be received when temporary differences previously reported in our consolidated financial statements become deductible for income tax purposes, when net operating loss carry forwards are applied against future taxable income, or when tax credit carry forwards are utilized on our tax returns. We assess the realizability of our deferred tax assets and the need for a valuation allowance based on the guidance provided in current financial accounting standards.

Significant judgment is required in determining the realizability of our deferred tax assets. The assessment of whether valuation allowances are required considers, among other matters, the nature, frequency and severity of any current and cumulative losses, forecasts of future profitability, the duration of statutory carry forward periods, our experience with loss carry forwards not expiring unused and tax planning alternatives. In analyzing the need for valuation allowances, we first considered our history of cumulative operating results for income tax purposes over the past three years in each of the tax jurisdictions where we operate, our financial performance in recent quarters, statutory carry forward periods and tax planning alternatives. Finally, we considered both our near-term and long-term financial outlook. After considering all available evidence both positive and negative, we concluded that recognition of valuation allowances for substantially all of our U.S. and Singapore deferred tax assets was not required at March 31, 2018.

## Backlog

Backlog totaled \$12.1 million at March 31, 2018, \$11.4 million at December 31, 2017 and \$10.9 million at March 31, 2017. Our products are typically shipped two weeks to two months after receipt of an order. Sales of some inspection system products may require customer acceptance due to performance or other acceptance criteria included in the terms of sale. For these product sales, revenue is recognized at the time of customer acceptance. Our backlog at any time may vary significantly based on the timing of orders from OEM customers. In some instances, our OEM customers may place orders for shipment of products covering periods of nine months or longer. Accordingly, backlog may not be an accurate indicator of performance in the future.

## Liquidity and Capital Resources

Our cash and cash equivalents decreased by \$96,000 in the three months ended March 31, 2018. Purchases of fixed assets and capitalized patent costs totaling \$370,000 and purchases of marketable securities totaling \$2.6 million, were offset in part by \$489,000 of cash provided by operating activities, proceeds from the exercise of stock options totaling \$182,000 and proceeds from sales and maturities of marketable securities totaled \$2.2 million. Our cash and cash equivalents fluctuate in part because of sales and maturities of marketable securities and investment of cash balances in marketable securities. Accordingly, we believe the combined balances of cash and marketable securities provide a more reliable indication of our available liquidity than cash balances alone. Combined balances of cash and marketable securities increased by approximately \$200,000 to \$22.9 million as of March 31, 2018 from \$22.7 million as of December 31, 2017.

Operating activities provided \$489,000 of cash in the three months ended March 31, 2018. Cash provided by operations included our net loss of \$173,000. Included in net loss are non-cash expenses totaling \$742,000 for depreciation and amortization, provision for doubtful accounts, deferred income taxes, non-cash gains from foreign currency transactions, stock-based compensation costs and a small unrealized loss on our available-for-sale equity security. Changes in operating assets and liabilities providing cash in the three months ended March 31, 2018 included an increase in accounts payable of \$1.6 million. Changes in operating assets and liabilities using cash in the three months ended March 31, 2018 included an increase in accounts receivable of \$1.4 million, an increase in inventories of \$239,000 and an increase in other assets of \$229,000. Accounts payable increased due to the timing of inventory purchases, with more materials being acquired in the later part of the quarter, resulting in a higher accounts payable balance at March 31, 2018. Accounts receivable increased due to the higher sales volume in the first quarter of 2018, compared to the fourth quarter of 2017. Inventory increased slightly due to changes in anticipated product sales mix. Other assets were up due to prepayments for future operating expenses.

Investing activities used \$759,000 of cash in the three months ended March 31, 2018. Changes in the level of investment in marketable securities, resulting from the purchases, sales and maturities of those securities, used \$389,000 of cash in the three months ended March 31, 2018. We used \$370,000 of cash in the three months ended March 31, 2018 to purchase fixed assets and to fund capitalized patent costs.

Financing activities provided \$182,000 of cash in the three months ended March 31, 2018 from the exercise of stock options.

At March 31, 2018, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which are used to establish off-balance sheet arrangements.

There have been no significant changes to our contractual commitments in the three months ended March 31, 2018 other than purchase commitments for inventory, which can vary based on the volume of product sales and resulting inventory requirements.

We lease a 50,724 square foot mixed office and warehouse facility built to our specifications in Golden Valley, Minnesota, which functions as our corporate headquarters and primary manufacturing facility. We also lease a 10,165 square foot facility in Bloomington, Minnesota. The leases for these facilities will expire in December 2018. We lease a 19,805 square foot mixed office and warehouse facility in Singapore. The lease for our Singapore facility expires in July 2020. We anticipate entering into a new lease before the end of 2018 that will combine our current Golden Valley and Bloomington, Minnesota operations into a single facility effective January 2019, most likely in our current Golden Valley, Minnesota location. We anticipate that our annual rental costs will increase by approximately \$250,000 when the new lease becomes effective.

Our Board of Directors has authorized a \$3.0 million share repurchase program, of which \$2.8 million remains available for future share repurchases. The common stock may be acquired from time to time in open market transactions, block purchases and other transactions complying with the Securities and Exchange Commission's Rule 10b-18. The share repurchase program will expire on September 30, 2018. During the three months ending March 31, 2018, no shares were repurchased under this program.

Our cash, cash equivalents and marketable securities totaled \$22.9 million at March 31, 2018. We believe that our cash, cash equivalents and marketable securities, coupled with anticipated cash flow from operations, will be adequate to fund our cash flow needs for the foreseeable future.

## CRITICAL ACCOUNTING POLICIES AND ESTIMATES:

The preparation of the financial information contained in this Form 10-Q requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate these estimates, including those estimates related to revenue recognition, bad debts, warranty obligations, inventory valuation, intangible assets and income taxes. We base these estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. These estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions. These critical accounting policies are discussed in more detail in the Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our Annual Report on Form 10-K for the year ended December 31, 2017.

### *Change in Revenue Accounting*

Effective January 1, 2018, we adopted ASU No. 2014-9, "Revenue from Contracts with Customers" and the related amendments ("Topic 606") using the modified retrospective method. Topic 606 was applied to all uncompleted contracts by recognizing the cumulative effect of initially applying Topic 606 as an adjustment to the opening balance of equity at January 1, 2018. Therefore, the comparative financial information for the three months ended March 31, 2017 has not been adjusted and continues to be reported under Topic 605, "Revenue Recognition".

Accounting for contracts recognized over time involves the use of various techniques to estimate total contract revenue and costs. Contract estimates are based on various assumptions to project the outcome of future events that may span multiple years. We review and update our contract-related estimates regularly, and record adjustments as needed.

The adoption of Topic 606 caused changes for 1) the impact of volume discounts that represent a material right which will now be estimated and recognized over the contract life rather than on a prospective basis, and 2) revenue will be recognized over time as the products are manufactured under certain contracts where our product is customized rather than at shipment. These changes increased our net revenues in the three months ended March 31, 2018 by less than \$30,000, compared to revenue recognition under Topic 605 (see Note 15).

### *Performance Obligations*

Under Topic 606, revenue is measured based on consideration specified in the contract with a customer. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in Topic 606. Revenue from all customers, including distributors, is recognized when a performance obligation is satisfied by transferring control of a product or service to a customer. Amounts billed to customers for shipping and handling are included in revenue. Taxes collected from customers and remitted to governmental authorities are excluded from revenue on the net basis of accounting. Accounts receivable are due under normal trade terms, typically 90 days or less.

Sales involving multiple performance obligations typically include the sale of an inspection system or metrology product, installation and training, and in some cases, an extended warranty. When a sale involves multiple performance obligations, we account for individual products and services separately if the customer can benefit from the product or service on its own or with other resources that are readily available to the customer and the product or service are separately identifiable from other promises in the arrangement. The consideration is allocated between separate performance obligations in proportion to their estimated stand-alone selling price. If the stand-alone selling price is not directly observable, we use the cost plus margin approach to estimate stand-alone selling price. Costs related to products delivered are recognized in the period revenue is recognized, including product warranties for periods ranging from 1 to 3 years (see Note 7).

Our performance obligations are satisfied at a point in time or over time as work progresses. Revenue from goods and services transferred to customers at a point in time accounted for \$13.2 million or 94% of our revenue in the three months ended March 31, 2018. Revenue on these contracts is recognized when obligations under the terms of the contract with our customer are satisfied; generally with the transfer of control upon shipment. Sales of some products may require customer acceptance due to performance or other acceptance criteria that is considered more than a formality. For these product sales, revenue is recognized upon notification of customer acceptance.

Revenue from products and services transferred to customers over time accounted for \$900,000 or 6% of our revenue in the three months ended March 31, 2018. Periodically OEM sensor product arrangements will create an asset with no alternative use and include an enforceable right to payment. For these arrangements control is transferred over the manufacturing process; therefore, revenue is recognized over time utilizing an input method based on actual costs incurred in the manufacturing process to date relative to total expected production costs. For certain longer duration 3D scanning service projects, we progress bill as the services are performed. These arrangements will create an asset with no alternative use and include an enforceable right to payment. For these arrangements, control is transferred over the hours incurred to complete the scanning project; therefore, revenue is recognized over time utilizing an input method based on actual hours incurred relative to total projected project hours. For maintenance and extended warranty contracts, revenue is recognized over time on a straight-line basis over the term of the contract as the customer simultaneously receives and consumes the benefits of the coverage.

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

#### Foreign Currency Exchange Risk

Most of our international export sales are negotiated, invoiced and paid in U.S. dollars. We manufacture our inspection system products in Singapore and a portion of our raw material purchases are denominated in Singapore dollars. We also have research and development and sales personnel located in Singapore and sales offices located in other parts of the world. Although currency fluctuations do not significantly affect our revenue, they can impact our costs and influence the price competitiveness of our products and the willingness of existing and potential customers to purchase these products. A hypothetical 5% appreciation or depreciation in the U.S. dollar relative to the reporting currencies of our foreign subsidiaries in 2017 would have affected the foreign-currency denominated operating expenses of these subsidiaries by approximately \$500,000. We cannot accurately predict future exchange rates or the overall impact of future exchange rate fluctuations on our business, results of operations and financial condition.

As of March 31, 2018, we did not have any open foreign exchange forward contracts to hedge our exposure to fluctuations in foreign currency exchange rates. We recognized gains from foreign currency transactions, primarily intercompany financing transactions, of \$43,000 in the three months ended March 31, 2018. Balance sheet related foreign currency translation adjustments are recorded in accumulated other comprehensive loss, a component of shareholders' equity. Accordingly, these adjustments do not impact our net income.

#### Interest Rate Risk

We invest excess funds not required for current operations in marketable securities. Our investments in marketable securities consist of U.S. Government or U.S. Government agency securities, various tax exempt securities or certain approved corporate instruments with maturities of five years or less. The average maturity of securities in our investment portfolio does not exceed 18 months. We also hold an investment in a certain specified marketable equity security issued by a public company. As of March 31, 2018, our portfolio of marketable securities had an approximate weighted average effective maturity of 1.1 years. All marketable securities are classified as available for sale and carried at fair value. We estimate that a hypothetical 1% increase in market interest rates would result in an approximate \$175,000 decrease in the market value of our portfolio of marketable securities. If such a rate increase occurred, our net income would only be impacted if securities were sold prior to maturity.

### ITEM 4 – CONTROLS AND PROCEDURES

a. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered by this report, our disclosure controls and procedures were effective in ensuring that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in applicable rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, in a manner that allows timely decisions regarding required disclosure.

b. Effective January 1, 2018, we implemented ASU 2014-09 *Revenue from Contracts with Customers (Topic 606)*. Although the adoption of the new revenue standard had no significant impact on our results of operations, cash flows, or financial position, we did implement changes to our controls related to revenue. These changes included the development of new policies based on the five-step model provided in the new revenue standard, enhanced contract review requirements, and other ongoing monitoring activities. These controls were designed to provide assurance at a reasonable level of the fair presentation of our financial statements and related disclosures. There was no other change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during the period covered by this quarterly report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

## **PART II. OTHER INFORMATION**

### **ITEM 1 – LEGAL PROCEEDINGS**

None.

### **ITEM 1A – RISK FACTORS**

In addition to the other information set forth in this report, you should carefully consider the factors discussed in Part I “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2017, which could materially affect our business, financial condition or future results.

### **ITEM 2 – UNREGISTERED SALES OF EQUITY SECURITIES, USE OF PROCEEDS AND ISSUER PURCHASES OF EQUITY SECURITIES**

None.

### **ITEM 3 – DEFAULTS UPON SENIOR SECURITIES**

None.

### **ITEM 4 – MINE SAFETY DISCLOSURES**

None.

### **ITEM 5 – OTHER INFORMATION**

None.

### **ITEM 6 – EXHIBITS**

- 31.1: Certification of Chief Executive Officer pursuant to Rule 15d-14(a) (17 CFR 240.15d-14(a)) and Section 302 of the Sarbanes Oxley Act of 2002
- 31.2: Certification of Chief Financial Officer pursuant to Rule 15d-14(a) (17 CFR 240.15d-14(a)) and Section 302 of the Sarbanes Oxley Act of 2002
- 32: Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes Oxley Act of 2002
- 101: Financial statements formatted in Inline Extensible Business Reporting Language: (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statement of Operations, (iii) the Condensed Consolidated Statements of Comprehensive Income (Loss), (iv) the Condensed Consolidated Statements of Cash Flows and (v) the Notes to the Interim Condensed Consolidated Financial Statements.



## 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.

CYBEROPTICS CORPORATION

/s/ Subodh Kulkarni

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By Subodh Kulkarni, President and Chief Executive Officer  
(Principal Executive Officer and Duly Authorized Officer)

/s/ Jeffrey A. Bertelsen

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By Jeffrey A. Bertelsen, Vice President, Chief Financial  
Officer and Chief Operating Officer  
(Principal Accounting Officer and Duly Authorized Officer)

Dated: May 8, 2018

I, Subodh Kulkarni, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of CyberOptics Corporation.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2018

/s/ Subodh Kulkarni

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Signature

Name: Subodh Kulkarni

Title: President and Chief Executive Officer

I, Jeffrey A. Bertelsen, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of CyberOptics Corporation.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2018

/s/ Jeffrey A. Bertelsen

Signature

Name: Jeffrey A. Bertelsen

Title: Vice President, Chief Financial Officer and Chief Operating Officer

**CERTIFICATION PURSUANT TO  
18 U.S.C. §1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of CyberOptics Corporation (the "Company") on Form 10-Q for the period ended March 31, 2018 as filed with the Securities and Exchange Commission on or about the date hereof (the "Report"), the undersigned, Subodh Kulkarni, Chief Executive Officer of the Company, and Jeffrey A. Bertelsen, Chief Financial Officer of the Company, each certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Subodh Kulkarni

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Subodh Kulkarni  
President and Chief Executive Officer  
May 8, 2018

/s/ Jeffrey A. Bertelsen

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Jeffrey A. Bertelsen  
Vice President, Chief Financial Officer and Chief Operating Officer  
May 8, 2018

**END OF FILING**