

UNITED STATES
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 September 30, 2019

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)

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, no par value	CYBE	NASDAQ Stock Market LLC

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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

Large Accelerated Filer

Non-Accelerated Filer

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 October 31, 2019, there were 7,128,199 shares of the registrant's Common Stock, no par value, issued and outstanding.

PART I. FINANCIAL INFORMATION

ITEM 1. INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

INTERIM CONDENSED CONSOLIDATED BALANCE SHEETS
CYBEROPTICS CORPORATION
(Unaudited)

(In thousands, except share information)	September 30, 2019	December 31, 2018
ASSETS		
Cash and cash equivalents	\$ 8,104	\$ 9,248
Marketable securities	7,792	5,771
Accounts receivable, less allowances of \$283 at September 30, 2019 and \$314 at December 31, 2018	13,322	15,859
Inventories	16,360	16,163
Other current assets	1,819	2,096
Total current assets	47,397	49,137
Marketable securities, long-term	9,392	10,322
Equipment and leasehold improvements, net	3,546	2,861
Intangible assets, net	295	333
Goodwill	1,366	1,366
Right-of-use assets (operating leases)	1,985	—
Other assets	249	259
Deferred tax assets	5,276	5,422
Total assets	\$ 69,506	\$ 69,700
LIABILITIES AND STOCKHOLDERS' EQUITY		
Accounts payable	\$ 4,945	\$ 8,513
Advance customer payments	528	636
Accrued expenses	2,350	3,568
Current operating lease liabilities	686	—
Total current liabilities	8,509	12,717
Other liabilities	162	629
Long-term operating lease liabilities	3,178	—
Reserve for income taxes	143	143
Total liabilities	11,992	13,489
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, no par value, 5,000,000 shares authorized, none outstanding	—	—
Common stock, no par value, 25,000,000 shares authorized, 7,121,671 shares issued and outstanding at September 30, 2019 and 7,100,825 shares issued and outstanding at December 31, 2018	36,397	35,637
Accumulated other comprehensive loss	(1,786)	(1,690)
Retained earnings	22,903	22,264
Total stockholders' equity	57,514	56,211
Total liabilities and stockholders' equity	\$ 69,506	\$ 69,700

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

INTERIM CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
CYBEROPTICS CORPORATION
(Unaudited)

(In thousands, except per share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Revenues	\$ 12,391	\$ 16,683	\$ 42,411	\$ 46,657
Cost of revenues	6,885	9,247	23,290	25,738
Gross margin	5,506	7,436	19,121	20,919
Research and development expenses	2,408	2,162	6,950	6,585
Selling, general and administrative expenses	3,855	3,945	11,779	12,448
Income (loss) from operations	(757)	1,329	392	1,886
Interest income and other	170	35	306	192
Income (loss) before income taxes	(587)	1,364	698	2,078
Income tax expense (benefit)	(234)	297	92	444
Net income (loss)	<u>\$ (353)</u>	<u>\$ 1,067</u>	<u>\$ 606</u>	<u>\$ 1,634</u>
Net income (loss) per share – Basic	<u>\$ (0.05)</u>	<u>\$ 0.15</u>	<u>\$ 0.09</u>	<u>\$ 0.23</u>
Net income (loss) per share – Diluted	<u>\$ (0.05)</u>	<u>\$ 0.15</u>	<u>\$ 0.08</u>	<u>\$ 0.23</u>
Weighted average shares outstanding – Basic	<u>7,117</u>	<u>7,041</u>	<u>7,108</u>	<u>7,012</u>
Weighted average shares outstanding – Diluted	<u>7,117</u>	<u>7,299</u>	<u>7,245</u>	<u>7,176</u>

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

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

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income (loss)	\$ (353)	\$ 1,067	\$ 606	\$ 1,634
Other comprehensive loss, before tax:				
Foreign currency translation adjustments	(269)	(50)	(199)	(252)
Unrealized gains (losses) on available-for-sale securities:				
Unrealized gains (losses)	1	3	129	(33)
Reclassification adjustment for gains included in net income	—	(3)	—	(3)
Total unrealized gains (losses) on available-for-sale securities	1	—	129	(36)
Other comprehensive loss before income taxes	(268)	(50)	(70)	(288)
Income tax (provision) benefit	—	—	(26)	8
Other comprehensive loss after income taxes	(268)	(50)	(96)	(280)
Total comprehensive income (loss)	\$ (621)	\$ 1,017	\$ 510	\$ 1,354

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

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

(In thousands)	Nine Months Ended September 30,	
	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	\$ 606	\$ 1,634
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation and amortization	2,102	1,876
Recovery for doubtful accounts	(31)	(159)
Deferred taxes	107	261
Foreign currency transaction gains	(112)	(140)
Share-based compensation	737	701
Unrealized loss on available-for-sale equity security	10	24
Realized gain on available-for-sale marketable securities	—	(3)
Changes in operating assets and liabilities:		
Accounts receivable	2,568	(3,594)
Inventories	(1,123)	(387)
Other assets	235	(692)
Accounts payable	(3,538)	1,124
Advance customer payments	(50)	638
Accrued expenses	(1,077)	382
Operating lease assets and liabilities	482	—
Net cash provided by operating activities	916	1,665
CASH FLOWS FROM INVESTING ACTIVITIES:		
Proceeds from maturities of available-for-sale marketable securities	6,144	6,018
Proceeds from sales of available-for-sale marketable securities	—	480
Purchases of available-for-sale marketable securities	(7,080)	(7,006)
Additions to equipment and leasehold improvements	(1,065)	(1,079)
Additions to patents	(88)	(76)
Net cash used in investing activities	(2,089)	(1,663)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from exercise of stock options	173	452
Repurchase of common stock	(353)	—
Proceeds from issuance of common stock under employee stock purchase plan	203	219
Net cash provided by financing activities	23	671
Effects of exchange rate changes on cash and cash equivalents	6	16
Net increase (decrease) in cash and cash equivalents	(1,144)	689
Cash and cash equivalents – beginning of period	9,248	6,944
Cash and cash equivalents – end of period	\$ 8,104	\$ 7,633

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 of CyberOptics Corporation ("we", "us" or "our") presented herein as of September 30, 2019, and for the three and nine month periods ended September 30, 2019 and 2018, 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 and nine month periods ended September 30, 2019 do not necessarily indicate the results to be expected for the full year. The December 31, 2018 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 ("U.S. GAAP"). 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, 2018.

2. RECENT ACCOUNTING DEVELOPMENTS:

In February 2016, the Financial Accounting Standards Board (the "FASB") issued new lease accounting guidance, ASU 2016-02, *Leases* (also referred to as Topic 842), which we adopted on January 1, 2019. Under Topic 842, at the commencement date, lessees are 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. In July 2018, the FASB issued ASU 2018-11, *Leases (Topic 842), Targeted Improvements*, which gave companies the option of applying the new standard at the adoption date, rather than retrospectively to the earliest period presented in the financial statements, with recognition of a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We chose the option to apply the new standard at the adoption date, and therefore we were not required to restate the financial statements for prior periods, nor are we required to provide the disclosures required by Topic 842 for prior periods. Upon adoption of Topic 842, we recognized an approximate \$2.6 million right-of-use asset, and an approximate \$3.2 million lease liability. Our previously recognized liability for lease incentives recorded under prior accounting standards was eliminated. The cumulative-effect adjustment to the opening balance of retained earnings related to our adoption of Topic 842 was inconsequential. Our adoption of Topic 842 did not impact our cash flows or have a material impact on our results of operations. We have expanded our consolidated financial statement disclosures to comply with the requirements of Topic 842.

In February 2018, the FASB issued ASU 2018-02, *Reclassification of Tax Effects from Accumulated Other Comprehensive Income* ("ASU 2018-02"), which allows an entity to elect an option to reclassify the stranded tax effects related to the application of the Tax Cuts and Jobs Act (the "TCJA") from accumulated other comprehensive income or loss to retained earnings. ASU 2018-02 was effective January 1, 2019 and could be applied either in the period of adoption or retrospectively to all applicable periods. We did not elect to reclassify the stranded tax effects related to the application of the TCJA from accumulated other comprehensive loss to retained earnings.

In January 2017, the FASB issued guidance on simplifying the test for goodwill impairment, ASU 2017-04, *Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"). Under ASU 2017-04, 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 standard 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. ASU 2017-04 is to be applied prospectively to impairment tests beginning January 1, 2020, with early adoption permitted. We are currently evaluating when we will adopt ASU 2017-04 and do not expect the adoption to have a material impact on our consolidated financial statements.

3. REVENUE RECOGNITION:

Our revenue performance obligations are primarily satisfied at a point in time and limited revenue streams are satisfied over time as work progresses.

The following is a summary of our revenue performance obligations in the three and nine months ended September 30, 2019 and the three and nine months ended September 30, 2018:

(In thousands except percentages)	Three Months Ended September 30, 2019		Three Months Ended September 30, 2018	
	Revenues	Percent of Revenues	Revenues	Percent of Revenues
Revenue recognized over time	\$ 403	3%	\$ 1,241	7%
Revenue recognized at a point in time	11,988	97%	15,442	93%
	<u>\$ 12,391</u>	<u>100%</u>	<u>\$ 16,683</u>	<u>100%</u>

(In thousands except percentages)	Nine Months Ended September 30, 2019		Nine Months Ended September 30, 2018	
	Revenues	Percent of Revenues	Revenues	Percent of Revenues
Revenue recognized over time	\$ 1,041	2%	\$ 3,262	7%
Revenue recognized at a point in time	41,370	98%	43,395	93%
	<u>\$ 42,411</u>	<u>100%</u>	<u>\$ 46,657</u>	<u>100%</u>

See Note 10 for additional information regarding disaggregation of revenue.

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.

The following summarizes our contract assets and contract liabilities:

(In thousands)	September 30, 2019	December 31, 2018
Contract assets, included in other current assets	\$ 6	\$ —
Contract liabilities - advance customer payments	\$ 427	\$ 366
Contract liabilities - deferred warranty revenue	\$ 235	\$ 218

Changes in contract assets in the nine months ended September 30, 2019 and the nine months ended September 30, 2018 resulted from unbilled amounts under sensor product arrangements and longer duration 3D scanning service projects in which revenue is recognized over time. Changes in contract liabilities primarily resulted from reclassification of beginning contract liabilities to revenue as performance obligations were satisfied or from cash received in advance and not recognized as revenue. See Note 8 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 nine months ended September 30, 2019 or the nine months ended September 30, 2018.

The following summarizes the amounts reclassified from beginning contract liabilities to revenue:

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Amounts reclassified from beginning contract liabilities to revenue	\$ 342	\$ 39	\$ 401	\$ 262
Amounts reclassified from deferred warranty revenue	111	99	334	310
Total	<u>\$ 453</u>	<u>\$ 138</u>	<u>\$ 735</u>	<u>\$ 572</u>

4. MARKETABLE SECURITIES:

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

(In thousands)	September 30, 2019			
	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Short-Term				
U.S. government and agency obligations	\$ 5,138	\$ 11	\$ (2)	\$ 5,147
Corporate debt securities and certificates of deposit	1,170	1	—	1,171
Asset backed securities	1,469	5	—	1,474
Marketable securities – short-term	<u>\$ 7,777</u>	<u>\$ 17</u>	<u>\$ (2)</u>	<u>\$ 7,792</u>
Long-Term				
U.S. government and agency obligations	\$ 5,646	\$ 32	\$ (1)	\$ 5,677
Corporate debt securities and certificates of deposit	1,602	12	—	1,614
Asset backed securities	2,035	17	—	2,052
Equity security	42	7	—	49
Marketable securities – long-term	<u>\$ 9,325</u>	<u>\$ 68</u>	<u>\$ (1)</u>	<u>\$ 9,392</u>

(In thousands)	December 31, 2018			
	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Short-Term				
U.S. government and agency obligations	\$ 3,377	\$ —	\$ (20)	\$ 3,357
Corporate debt securities and certificates of deposit	1,787	3	(5)	1,785
Asset backed securities	633	—	(4)	629
Marketable securities – short-term	<u>\$ 5,797</u>	<u>\$ 3</u>	<u>\$ (29)</u>	<u>\$ 5,771</u>
Long-Term				
U.S. government and agency obligations	\$ 6,114	\$ 10	\$ (23)	\$ 6,101
Corporate debt securities and certificates of deposit	754	1	(3)	752
Asset backed securities	3,422	2	(15)	3,409
Equity security	42	18	—	60
Marketable securities – long-term	<u>\$ 10,332</u>	<u>\$ 31</u>	<u>\$ (41)</u>	<u>\$ 10,322</u>

(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
September 30, 2019				
U.S. government and agency obligations	\$ 1,057	\$ (2)	\$ 2,282	\$ (1)
Corporate debt securities and certificates of deposit	20	—	80	—
Asset backed securities	50	—	733	—
Marketable securities	<u>\$ 1,127</u>	<u>\$ (2)</u>	<u>\$ 3,095</u>	<u>\$ (1)</u>
December 31, 2018				
U.S. government and agency obligations	\$ 1,548	\$ (4)	\$ 4,608	\$ (39)
Corporate debt securities and certificates of deposit	250	—	1,178	(8)
Asset backed securities	1,023	(3)	2,137	(16)
Marketable securities	<u>\$ 2,821</u>	<u>\$ (7)</u>	<u>\$ 7,923</u>	<u>\$ (63)</u>

The marketable debt securities in which we have invested all have maturities of less than five years. Net pre-tax unrealized gains for marketable debt securities of \$75,000 at September 30, 2019 and net pre-tax losses for marketable debt securities of \$54,000 at December 31, 2018 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 September 30, 2019 and December 31, 2018 were caused by fluctuations in interest rates and are temporary in nature. We review our marketable debt 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 the fair value of the investment has been less than the cost basis, the credit quality of the investment and our ability and intent to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value. No marketable securities were sold in the three or nine months ended September 30, 2019. In the three and nine months ended September 30, 2018, proceeds from sales of marketable securities totaled \$410,000 and \$480,000, respectively. In both the three and nine months ended September 30, 2018, gains of \$3,000 were recognized on the sales.

Investments in marketable securities classified as cash equivalents of \$3.9 million at September 30, 2019 and \$2.5 million at December 31, 2018 consist of corporate debt securities and certificates of deposit. There were no unrealized gains or losses with respect to any of these securities at September 30, 2019 or December 31, 2018.

Cash and marketable securities held by foreign subsidiaries totaled \$405,000 at September 30, 2019 and \$362,000 at December 31, 2018.

5. 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 (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 September 30, 2019 and December 31, 2018 according to the three-level fair value hierarchy:

(In thousands)	Fair Value Measurements at September 30, 2019 Using			
	Balance September 30, 2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Marketable securities:				
U.S. government and agency obligations	\$ 10,824	\$ —	\$ 10,824	\$ —
Corporate debt securities and certificates of deposit	2,785	—	2,785	—
Asset backed securities	3,526	—	3,526	—
Equity security	49	49	—	—
Total marketable securities	\$ 17,184	\$ 49	\$ 17,135	\$ —

(In thousands)	Fair Value Measurements at December 31, 2018 Using			
	Balance December 31, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Marketable securities:				
U.S. government and agency obligations	\$ 9,458	\$ —	\$ 9,458	\$ —
Corporate debt securities and certificates of deposit	2,537	—	2,537	—
Asset backed securities	4,038	—	4,038	—
Equity security	60	60	—	—
Total marketable securities	\$ 16,093	\$ 60	\$ 16,033	\$ —

During the nine months ended September 30, 2019 and the year ended December 31, 2018, we owned no Level 3 securities, and 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 which 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 the valuations 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 and goodwill and other 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 nine months ended September 30, 2019 or the nine months ended September 30, 2018.

6. SHARE-BASED COMPENSATION:

We have three share-based compensation plans that are administered by the Compensation Committee of the Board of Directors. We have (a) 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, (b) an Employee Stock Purchase Plan under which shares of our common stock may be acquired by employees at discounted prices, and (c) a Non-Employee Director Stock Plan that provides for automatic grants of restricted 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 September 30, 2019, there were 273,764 shares of common stock reserved in the aggregate for issuance pursuant to future awards under our Employee Stock Incentive Plan and 524,428 shares of common stock reserved in the aggregate for issuance pursuant to outstanding awards under such 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 stock units, that are forfeited are available under the Employee Stock Incentive Plan for future grant.

Non-Employee Director Stock Plan

As of September 30, 2019, there were 52,000 shares of common stock reserved in the aggregate for issuance pursuant to future restricted share grants 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 (which previously authorized the granting of stock options to non-employee directors). Under the terms of the plan, each non-employee director receives annual restricted share grants of 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. The annual restricted share grants of common stock 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.

On the date of our 2019 annual meeting, we issued a total of 8,000 shares of our common stock to our non-employee directors, which were restricted as specified in the Non-Employee Director Stock Plan. The shares had an aggregate fair market value on the date of grant equal to \$138,000 (grant date fair value of \$17.26 per share). As of September 30, 2019, 2,000 of these shares were vested. The aggregate fair value of the 6,000 unvested shares based on the closing price of our common stock on September 30, 2019 was \$86,000.

Stock Option Activity

The following is a summary of stock option activity in the nine months ended September 30, 2019:

	Options Outstanding	Weighted Average Exercise Price Per Share
Outstanding, December 31, 2018	523,042	\$ 11.48
Granted	—	—
Exercised	(21,050)	8.23
Expired	(5,750)	10.83
Forfeited	(7,350)	16.67
Outstanding, September 30, 2019	488,892	\$ 11.55
Exercisable, September 30, 2019	334,768	\$ 9.45

The intrinsic value of an option is the amount by which the market price of the underlying common stock exceeds the option's exercise price. For options outstanding at September 30, 2019, the weighted average remaining contractual term of all outstanding options was 3.3 years and their aggregate intrinsic value was \$2.1 million. At September 30, 2019, the weighted average remaining contractual term of options that were exercisable was 2.6 years and their aggregate intrinsic value was \$1.9 million. The aggregate intrinsic value of stock options exercised in the nine months ended September 30, 2019 was \$121,000. We received proceeds from stock option exercises of \$173,000 in the nine months ended September 30, 2019 and \$452,000 in the nine months ended September 30, 2018. The aggregate fair value of options that vested in the nine months ended September 30, 2019 was \$5,000.

Restricted Shares and Restricted Stock Units

Restricted shares are granted under our Non-Employee Director Stock Plan. There were 8,000 restricted shares granted in the nine months ended September 30, 2019. Restricted stock units are granted under our Employee Stock Incentive Plan. No restricted stock units were granted in the nine months ended September 30, 2019. The aggregate fair value of outstanding restricted shares and restricted stock units based on the closing share price of our common stock as of September 30, 2019 was \$822,000. The aggregate fair value of restricted shares and restricted stock units that vested, based on the closing price of our common stock on the vesting date, was \$105,000 in the nine months ended September 30, 2019.

The following is a summary of activity in non-vested restricted shares and restricted stock units in the nine months ended September 30, 2019:

Non-vested restricted stock units and restricted shares	Shares	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2018	56,411	\$ 17.59
Granted	8,000	17.26
Vested	(6,000)	16.59
Forfeited	(875)	16.19
Non-vested at September 30, 2019	57,536	\$ 17.67

Employee Stock Purchase Plan

We have an Employee Stock Purchase Plan available to eligible U.S. employees. Under the 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 (which begins on August 1st and ends on July 31st of each year). There were 17,781 shares issued under this plan in the nine months ended September 30, 2019. As of September 30, 2019, 156,688 shares remain available for future purchase under the Employee Stock Purchase Plan.

Share-Based Compensation Information

All share-based compensation awarded to our employees and non-employee directors, including grants of stock options, restricted stock units and restricted shares, are required to be recognized as an expense in our consolidated statements of operations based on the grant date fair value of the award. We utilize the straight-line method of expense recognition over the award's service period for our graded vesting options. The fair value of stock options has been determined using the Black-Scholes model. We have classified employee share-based compensation within our statements of operations in the same manner as our cash-based employee compensation costs.

Share-based compensation expense in the three months ended September 30, 2019 totaled \$244,000, and included \$110,000 for stock options, \$21,000 for our Employee Stock Purchase Plan, \$78,000 for restricted stock units and \$35,000 for restricted shares. Share-based compensation expense in the nine months ended September 30, 2019 totaled \$737,000, and included \$327,000 for stock options, \$81,000 for our Employee Stock Purchase Plan, \$231,000 for restricted stock units and \$98,000 for restricted shares.

Share-based compensation expense in the three months ended September 30, 2018 totaled \$217,000, and included \$94,000 for stock options, \$31,000 for our Employee Stock Purchase Plan, \$59,000 for restricted stock units and \$33,000 for restricted shares. Share-based compensation expense in the nine months ended September 30, 2018 totaled \$701,000, and included \$328,000 for stock options, \$86,000 for our Employee Stock Purchase Plan, \$176,000 for restricted stock units and \$111,000 for restricted shares.

At September 30, 2019, the total unrecognized compensation cost related to non-vested share-based compensation arrangements was \$1.6 million and the related weighted average period over which such cost is expected to be recognized is 2.35 years.

7. CHANGES IN STOCKHOLDERS' EQUITY:

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

Three months ended September 30, 2019:

(In thousands)	Common Stock		Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity
	Shares	Amount			
Balance, June 30, 2019	7,115	\$ 36,189	\$ (1,518)	\$ 23,256	\$ 57,927
Exercise of stock options	15	114	—	—	114
Share-based compensation	—	244	—	—	244
Issuance of common stock under Employee Stock Purchase Plan	18	203	—	—	203
Repurchase of common stock	(26)	(353)	—	—	(353)
Other comprehensive loss, net of tax	—	—	(268)	—	(268)
Net loss	—	—	—	(353)	(353)
Balance, September 30, 2019	7,122	\$ 36,397	\$ (1,786)	\$ 22,903	\$ 57,514

Nine months ended September 30, 2019:

(In thousands)	Common Stock		Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity
	Shares	Amount			
Balance, December 31, 2018	7,101	\$ 35,637	\$ (1,690)	\$ 22,264	\$ 56,211
Increase related to adoption of ASU 2016-02	—	—	—	33	33
Exercise of stock options	21	173	—	—	173
Share issuances for director compensation	8	—	—	—	—
Share-based compensation	—	737	—	—	737
Issuance of common stock under Employee Stock Purchase Plan	18	203	—	—	203
Repurchase of common stock	(26)	(353)	—	—	(353)
Other comprehensive loss, net of tax	—	—	(96)	—	(96)
Net income	—	—	—	606	606
Balance, September 30, 2019	7,122	\$ 36,397	\$ (1,786)	\$ 22,903	\$ 57,514

Three months ended September 30, 2018:

(In thousands)	Common Stock		Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity
	Shares	Amount			
Balance, June 30, 2018	7,024	\$ 34,815	\$ (1,683)	\$ 20,004	\$ 53,136
Exercise of stock options	24	201	—	—	201
Share-based compensation	—	217	—	—	217
Issuance of common stock under Employee Stock Purchase Plan	16	219	—	—	219
Other comprehensive loss, net of tax	—	—	(50)	—	(50)
Net income	—	—	—	1,067	1,067
Balance, September 30, 2018	<u>7,064</u>	<u>\$ 35,452</u>	<u>\$ (1,733)</u>	<u>\$ 21,071</u>	<u>\$ 54,790</u>

Nine months ended September 30, 2018:

(In thousands)	Common Stock		Accumulated Other Comprehensive 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 and vesting of restricted stock units	60	452	—	—	452
Share issuances for director compensation	8	—	—	—	—
Share-based compensation	—	701	—	—	701
Issuance of common stock under Employee Stock Purchase Plan	16	219	—	—	219
Other comprehensive loss, net of tax	—	—	(280)	—	(280)
Net income	—	—	—	1,634	1,634
Balance, September 30, 2018	<u>7,064</u>	<u>\$ 35,452</u>	<u>\$ (1,733)</u>	<u>\$ 21,071</u>	<u>\$ 54,790</u>

8. OTHER FINANCIAL STATEMENT DATA:

Inventories consist of the following:

(In thousands)	September 30, 2019	December 31, 2018
Raw materials and purchased parts	\$ 10,352	\$ 8,821
Work in process	1,426	2,446
Finished goods	4,582	4,896
Total inventories	<u>\$ 16,360</u>	<u>\$ 16,163</u>

Accrued expenses consist of the following:

(In thousands)	September 30, 2019	December 31, 2018
Wages and benefits	\$ 1,038	\$ 2,166
Warranty liability	843	758
Income taxes payable	257	393
Other	212	251
	<u>\$ 2,350</u>	<u>\$ 3,568</u>

Warranty costs:

We provide for the estimated cost of product warranties, which cover products for periods ranging from one to three 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 components provided to us by suppliers, warranty obligations do arise. These obligations are affected by product failure rates, the cost of materials used in correcting product failures and service delivery expenses incurred to make these corrections. If actual product failure rates and material or service delivery costs differ from our estimates, revisions to the estimated warranty liability are 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)	Nine Months Ended September 30,	
	2019	2018
Balance at beginning of period	\$ 789	\$ 767
Accrual for warranties	713	399
Warranty revision	(7)	(30)
Settlements made during the period	(626)	(368)
Balance at end of period	869	768
Current portion of estimated warranty liability	(843)	(713)
Long-term estimated warranty liability	\$ 26	\$ 55

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)	Nine Months Ended September 30,	
	2019	2018
Balance at beginning of period	\$ 218	\$ 259
Revenue deferrals	352	289
Amortization of deferred revenue	(335)	(310)
Total deferred warranty revenue	235	238
Current portion of deferred warranty revenue	(182)	(228)
Long-term deferred warranty revenue	\$ 53	\$ 10

9. INTANGIBLE ASSETS:

Intangible assets consist of the following:

(In thousands)	September 30, 2019			December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Patents	\$ 2,842	\$ (2,630)	\$ 212	\$ 2,754	\$ (2,533)	\$ 221
Software	206	(163)	43	206	(141)	65
Marketing assets and customer relationships	101	(61)	40	101	(54)	47
Non-compete agreements	101	(101)	—	101	(101)	—
	\$ 3,250	\$ (2,955)	\$ 295	\$ 3,162	\$ (2,829)	\$ 333

Amortization expense for our intangible assets in the three and nine months ended September 30, 2019 and the three and nine months ended September 30, 2018 was as follows:

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Patents	\$ 33	\$ 28	\$ 97	\$ 84
Software	7	8	22	23
Marketing assets and customer relationships	3	2	7	7
Non-compete agreements	—	—	—	5
	<u>\$ 43</u>	<u>\$ 38</u>	<u>\$ 126</u>	<u>\$ 119</u>

Amortization of patents has been classified as research and development expense in the accompanying consolidated statements of operations. Estimated aggregate future amortization expense based on current intangible assets is expected to be as follows: \$42,000 for the remainder of 2019; \$149,000 in 2020; \$74,000 in 2021; \$19,000 in 2022; \$9,000 in 2023; and \$2,000 in 2024.

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 is recognized when future undiscounted cash flows expected to result from use of the asset and its eventual disposition are less than the carrying amount. There were no impairments in the nine months ended September 30, 2019 or the nine months ended September 30, 2018.

10. REVENUE CONCENTRATIONS, SIGNIFICANT CUSTOMERS AND GEOGRAPHIC AREAS:

The following summarizes our revenue by product line:

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
High Precision 3D and 2D Sensors	\$ 3,170	\$ 5,388	\$ 8,923	\$ 15,696
Semiconductor Sensors	3,676	3,463	10,934	10,564
Inspection and Metrology Systems	5,545	7,832	22,554	20,397
Total	<u>\$ 12,391</u>	<u>\$ 16,683</u>	<u>\$ 42,411</u>	<u>\$ 46,657</u>

Export sales as a percentage of total sales in the three and nine months ended September 30, 2019 were 77% and 73%, respectively. Export sales as a percentage of total sales in the three and nine months ended September 30, 2018 were 71% and 72%, respectively. Virtually all of our export sales are negotiated, invoiced and paid in U.S. dollars. Export sales by geographic area are summarized below:

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Americas	\$ 418	\$ 355	\$ 994	\$ 568
Europe	1,926	4,093	6,189	9,360
China	2,135	2,354	8,469	7,750
Taiwan	842	794	3,986	1,635
Other Asia	4,005	3,942	10,824	13,563
Other	248	348	632	548
Total export sales	<u>\$ 9,574</u>	<u>\$ 11,886</u>	<u>\$ 31,094</u>	<u>\$ 33,424</u>

In the nine months ended September 30, 2019, sales to significant customer A accounted for 12% of our total revenue. As of September 30, 2019, accounts receivable from significant customer A were \$1.5 million.

11. NET INCOME (LOSS) PER SHARE:

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

(In thousands except per share amounts)	Net Loss	Weighted Average Shares Outstanding	Per Share Amount
Three Months Ended September 30, 2019			
Basic	\$ (353)	7,117	\$ (0.05)
Dilutive effect of common equivalent shares	—	—	—
Dilutive	<u>\$ (353)</u>	<u>7,117</u>	<u>\$ (0.05)</u>

(In thousands except per share amounts)	Net Income	Weighted Average Shares Outstanding	Per Share Amount
Three Months Ended September 30, 2018			
Basic	\$ 1,067	7,041	\$ 0.15
Dilutive effect of common equivalent shares	—	258	—
Dilutive	<u>\$ 1,067</u>	<u>7,299</u>	<u>\$ 0.15</u>

(In thousands except per share amounts)	Net Income	Weighted Average Shares Outstanding	Per Share Amount
Nine Months Ended September 30, 2019			
Basic	\$ 606	7,108	\$ 0.09
Dilutive effect of common equivalent shares	—	137	(0.01)
Dilutive	<u>\$ 606</u>	<u>7,245</u>	<u>\$ 0.08</u>

(In thousands except per share amounts)	Net Income	Weighted Average Shares Outstanding	Per Share Amount
Nine Months Ended September 30, 2018			
Basic	\$ 1,634	7,012	\$ 0.23
Dilutive effect of common equivalent shares	—	164	—
Dilutive	<u>\$ 1,634</u>	<u>7,176</u>	<u>\$ 0.23</u>

Potentially dilutive shares excluded from the calculations of net income per diluted share due to their anti-dilutive effect were as follows: 567,000 shares in the three months ended September 30, 2019; 309,000 shares in the nine months ended September 30, 2019; 118,000 shares in the three months ended September 30, 2018; and 285,000 shares in the nine months ended September 30, 2018.

12. OTHER COMPREHENSIVE LOSS:

Reclassification adjustments are made to avoid double counting for items included in other comprehensive loss that are also recorded as part of net income (loss). Reclassifications and taxes related to items of other comprehensive loss are as follows:

(In thousands)	Three Months Ended September 30, 2019			Three Months Ended September 30, 2018		
	Before Tax	Tax Effect	Net of Tax Amount	Before Tax	Tax Effect	Net of Tax Amount
Foreign currency translation adjustments	\$ (269)	\$ —	\$ (269)	\$ (50)	\$ —	\$ (50)
Net changes related to available-for-sale securities:						
Unrealized gains	1	—	1	3	—	3
Reclassifications included in interest income and other	—	—	—	(3)	—	(3)
Net changes related to available-for-sale securities	1	—	1	—	—	—
Other comprehensive loss	\$ (268)	\$ —	\$ (268)	\$ (50)	\$ —	\$ (50)

(In thousands)	Nine Months Ended September 30, 2019			Nine Months Ended September 30, 2018		
	Before Tax	Tax Effect	Net of Tax Amount	Before Tax	Tax Effect	Net of Tax Amount
Foreign currency translation adjustments	\$ (199)	\$ —	\$ (199)	\$ (252)	\$ —	\$ (252)
Net changes related to available-for-sale securities:						
Unrealized gains (losses)	129	(26)	103	(33)	8	(25)
Reclassifications included in interest income and other	—	—	—	(3)	—	(3)
Net changes related to available-for-sale securities	129	(26)	103	(36)	8	(28)
Other comprehensive loss	\$ (70)	\$ (26)	\$ (96)	\$ (288)	\$ 8	\$ (280)

At September 30, 2019 and September 30, 2018, components of accumulated other comprehensive loss are as follows:

(In thousands)	Foreign Currency Translation Adjustments	Available-for-Sale Securities	Accumulated Other Comprehensive Loss
Balances at December 31, 2018	\$ (1,649)	\$ (41)	\$ (1,690)
Other comprehensive income (loss) for the nine months ended September 30, 2019	(199)	103	(96)
Balances at September 30, 2019	\$ (1,848)	\$ 62	\$ (1,786)

(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	—	(44)	(44)
Other comprehensive loss for the nine months ended September 30, 2018	(252)	(25)	(277)
Amounts reclassified from accumulated other comprehensive loss	—	(3)	(3)
Total change for the period	(252)	(72)	(324)
Balances at September 30, 2018	\$ (1,646)	\$ (87)	\$ (1,733)

13. INCOME TAXES:

We recorded an income tax benefit of \$234,000 in the three months ended September 30, 2019, compared to income tax expense of \$297,000 in the three months ended September 30, 2018. We recorded income tax expense of \$92,000 in the nine months ended September 30, 2019, compared to income tax expense of \$444,000 in the nine months ended September 30, 2018. Our income tax benefit in the three months ended September 30, 2019 reflected an effective tax rate of approximately 40%, compared to an effective tax rate of approximately 22% in the three months ended September 30, 2018. Our income tax expense in the nine months ended September 30, 2019 reflected an effective tax rate of approximately 13%, compared to an effective tax rate of approximately 21% in the nine months ended September 30, 2018. Fluctuations in our effective tax rate in both the three and nine months ended September 30, 2019 are related to a non-cash income benefit resulting from the completion of an audit of our income taxes in the Singapore tax jurisdiction. In the nine months ended September 30, 2019 and 2018, excess tax benefits related to employee share based payments totaled \$11,000 and \$70,000, respectively. On a recurring basis, our effective income tax rate is significantly impacted by Global Intangible Low Tax Income and U.S. federal R&D tax credits.

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 could be 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 in which we operate, our financial performance in recent quarters, statutory carry-forward periods and tax planning alternatives. In addition, 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.

14. OPERATING LEASES:

We determine if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use (“ROU”) assets, current operating lease liabilities, and long-term operating lease liabilities in our consolidated balance sheets. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. The operating lease ROU assets exclude lease incentives. As our leases do not provide an implicit rate, we use our incremental borrowing rate to determine the present value of lease payments. Our leases may include renewal options to extend the lease term, the exercise of which are at our sole discretion. In our accounting treatment of leases, the lease terms used do not include any option to extend the lease, because it is not reasonably certain that we will exercise the option. Lease expense is recognized on a straight-line basis over the lease term. We have lease agreements with lease and non-lease components (e.g., common-area or other maintenance costs) which are generally accounted for separately and expensed monthly. We do not recognize a ROU asset and lease liability for leases having a term of 12 months or less at the effective date.

We lease a 61,208 square foot mixed-use office and warehouse facility in Golden Valley, Minnesota. The lease has a term of 91 months and expires on July 31, 2026. The lease contains a rent escalation clause, one three year renewal option and incentives. Rental expense, including the effects of lease incentives, is recognized on a straight-line basis over the term of the lease. We are also required to pay insurance, property taxes and other operating expenses related to the leased facility, which are not fixed or tied to an index.

We lease a 19,805 square foot mixed-use office and warehouse facility in Singapore. The lease expires in July 2020, contains a rent escalation clause and one three year renewal option. We also have operating leases for sales offices in the United Kingdom and China, which expire in May 2023 and November 2020, respectively. We did not enter into any new leases in the nine months ended September 30, 2019.

The components of our costs for operating leases in the three and nine months ended September 30, 2019 are as follows:

Component (in thousands)	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Operating lease cost	\$ 179	\$ 538
Variable lease cost	67	202
Short-term lease cost	2	5
Total	<u>\$ 248</u>	<u>\$ 745</u>

Variable lease costs generally consists of real estate taxes and insurance for leased facilities, which are paid based on actual costs incurred by the lessor.

At September 30, 2019, the future maturities of lease liabilities are as follows:

Twelve months ending September 30,	(In thousands)
2020	\$ 801
2021	607
2022	622
2023	638
2024	654
2025 and thereafter	1,242
Total lease payments	<u>4,564</u>
Less: amount representing interest	700
Present value of operating lease liabilities	<u>\$ 3,864</u>

At September 30, 2019, the weighted average remaining term for our operating leases is 6.24 years, and the weighted average discount rate applied to our operating leases was 5.74%.

Cash paid for amounts included in the measurement of operating lease liabilities in the nine months ended September 30, 2019 was \$389,000. Incentives recorded as leasehold improvements in the nine months ended September 30, 2019 were \$783,000.

Because we have not restated prior year information for our adoption of Topic 842, the following presents our future minimum lease payments for operating leases under ASC Topic 840. These amounts include common-area or other maintenance costs under ASC Topic 840 (which was replaced by Topic 842). At December 31, 2018, the future minimum lease payments required under noncancelable operating lease agreements were as follows:

Year ending December 31,	(In thousands)
2019	\$ 1,095
2020	1,298
2021	1,049
2022	1,064
2023	1,080
2024 & Thereafter	3,049
Total	<u>\$ 8,635</u>

15. SHARE REPURCHASES:

In July 2019, our Board of Directors authorized a \$3.0 million share repurchase program. Our 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. In the three and nine months ended September 30, 2019, we spent \$353,000 to repurchase 25,985 shares of our common stock. The share repurchase program will terminate on June 30, 2020. See Item 2 of Part II of this report.

16. CONTINGENCIES:

We are periodically a defendant in miscellaneous lawsuits, 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 limits the amount of the claim. It is not possible to determine the maximum potential amount 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. However, there can be no assurance that intellectual property infringement and other claims against us or parties we have indemnified will have the same impact in the future.

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

FORWARD LOOKING STATEMENTS:

The following management's discussion and analysis of the financial condition and results of operations of CyberOptics Corporation ("we", "us" and "our") 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 economy in general and, the surface mount technology ("SMT") and semiconductor capital equipment markets in particular, and their impact on the markets for our products; and (vi) changes in the level of tariffs and other trade policies of the United States. 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 forward-looking 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, 2018.

RESULTS OF OPERATIONS

General

As a leading global developer and manufacturer of high precision 3D sensors, our strategy is to leverage our 3D sensor technologies in the SMT and semiconductor capital equipment markets. A key element in our strategy is the continued development and sale 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. Our operating results in the three and nine months ended September 30, 2019 were affected by the cyclical, industry-wide slowdown in demand for SMT and semiconductor capital equipment as well as uncertainty surrounding the global trade environment. We believe the three months ended September 30, 2019 marked the trough of the downturn in the SMT and semiconductor capital equipment markets, and that industry conditions will strengthen moving forward. Over the longer-term (i.e. the next several years), we expect a growing number of opportunities in the markets for SMT and semiconductor inspection and metrology, and we believe MRS has the potential to expand our presence in the markets for SMT and semiconductor capital equipment.

Manufacturing yield challenges as electronics and semiconductors become more complex are driving the need for more precise inspection and metrology. We believe 3D inspection and metrology represent high-growth segments in both the SMT and semiconductor capital equipment markets. We believe our 3D MRS technology platform is well suited for many applications in these markets, particularly with respect to complex circuit boards and semiconductor wafer level and advanced packaging inspection and metrology applications. We are taking advantage of current market trends by deploying our 3D MRS sensor technology in the following products:

- Our SQ3000 and SQ3000™ 3D CMM AOI systems, which are 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. The SQ3000™ 3D CMM AOI system combines automated optical inspection and metrology functionality in a single product. Manufacturers in a variety of industries, including SMT and semiconductor manufacturers, can use the SQ3000™ 3D CMM AOI system as an in-line or off-line metrology tool to help solve complex manufacturing and product quality challenges.
- Our high-precision 3D MRS sensors, which we sell to original equipment manufacturers ("OEMs") and system integrators, that produce inspection and metrology equipment for the SMT and semiconductor industries.
- Our next generation ultra-high resolution three micron pixel 3D NanoResolution MRS sensor is capable of measuring feature sizes down to 25 microns accurately and at high speeds, and is suitable for many semiconductor wafer level and advanced packaging inspection and metrology applications. We are targeting one micron, three-sigma accuracy, at speeds that would inspect more than 25 300-millimeter wafers in an hour. We have received initial purchase orders for our 3D NanoResolution MRS sensor from three OEM customers, and are currently demonstrating this technology to other OEMs, system integrators and directly to semiconductor manufacturers. We believe sales of 3D MRS-enabled sensors and systems for semiconductor wafer level and advanced packaging inspection and metrology applications represent compelling long-term growth opportunities.

While we are optimistic about the future sales of MRS-based products, revenue from all MRS-based products totaled \$14.9 million in the nine months ended September 30, 2019, a decrease of approximately 1% from \$15.0 million in the nine months ended September 30, 2018. Sales of 3D MRS sensors decreased 25% on a year-over-year basis in the nine months ended September 30, 2019 to \$4.1 million, as OEM customers reduced their orders due to sluggish market conditions in the global SMT and semiconductor capital equipment markets. Despite the weak market conditions, sales of 3D MRS-enabled SQ3000 and SQ3000™ 3D CMM AOI systems increased 14% on a year-over-year basis in the nine months ended September 30, 2019 to \$10.4 million. In the future, we anticipate increasing sales of MRS-based products in the SMT and semiconductor capital equipment markets by utilizing new OEM customers and system integrators and by expanding direct sales to end-user customers.

We have continued to invest in our semiconductor sensors, principally consisting of our WaferSense® family of products, because fabricators of semiconductors and other customers view these products as valuable tools for improving yields and productivity. Additional WaferSense® applications are currently under development. Over the longer-term, strong future sales growth is anticipated for our WaferSense® family of products.

Our backlog was \$14.4 million at September 30, 2019, up from \$13.0 million at June 30, 2019, but down from \$19.7 million at September 30, 2018. Our backlog at September 30, 2019 includes a large order for 3D MRS sensors from an existing OEM customer which are scheduled mostly for delivery after 2019. We are forecasting total sales of \$13.5 to \$15.0 million for the fourth quarter of 2019, down from \$18.1 million in the fourth quarter of 2018, but up from \$12.4 million in the third quarter of 2019. We believe that conditions in the SMT and semiconductor capital equipment markets will strengthen as we progress through 2020. We believe that we have the resources required to attain our growth objectives, given our available cash and marketable securities balances totaling \$25.3 million at September 30, 2019.

Revenues

Our revenues decreased by 26% to \$12.4 million in the three months ended September 30, 2019, from \$16.7 million in the three months ended September 30, 2018. Our revenues decreased by 9% to \$42.4 million in the nine months ended September 30, 2019 from \$46.7 million in the nine months ended September 30, 2018. The following table sets forth revenues by product line for the three and nine months ended September 30, 2019 and 2018:

(In thousands)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2019	2018	% Change	2019	2018	% Change
High Precision 3D and 2D Sensors	\$ 3,170	\$ 5,388	(41)%	\$ 8,923	\$ 15,696	(43)%
Semiconductor Sensors	3,676	3,463	6 %	10,934	10,564	4 %
Inspection and Metrology Systems	5,545	7,832	(29)%	22,554	20,397	11 %
Total	\$ 12,391	\$ 16,683	(26)%	\$ 42,411	\$ 46,657	(9)%

Revenues from sales of high precision 3D and 2D sensors decreased by \$2.2 million or 41% to \$3.2 million in the three months ended September 30, 2019, from \$5.4 million in the three months ended September 30, 2018. Revenues from sales of high precision 3D and 2D sensors decreased by \$6.8 million or 43% to \$8.9 million in the nine months ended September 30, 2019, from \$15.7 million in the nine months ended September 30, 2018. OEM customers reduced their purchases of high precision 3D and 2D sensors in the three and nine months ended September 30, 2019 in response to weak conditions in the global SMT and semiconductor capital equipment markets. Sales of high precision 3D and 2D sensors are dependent on the success of our OEM customers selling products that incorporate our sensors. Due to ongoing market weakness, our 3D and 2D sensor sales are forecasted to decline in the fourth quarter of 2019, both sequentially and on a year-over-year basis. However, we believe sales of 3D MRS-enabled sensors will rebound, starting in early 2020. We believe sales of older 2D legacy sensors will also rebound, but recovery may not happen until later in 2020. We believe sales of our new 3D MRS enabled sensors will represent an increasing percentage of our total high precision 3D and 2D sensor sales in the future. Quarterly sales of high precision 3D and 2D sensors, including 3D MRS enabled sensors, are prone to significant fluctuations due to variations in market demand.

Revenues from sales of semiconductor sensors, principally our WaferSense product line, increased by \$213,000 or 6% to \$3.7 million in the three months ended September 30, 2019, from \$3.5 million in the three months ended September 30, 2018. Revenue from sales of semiconductor sensors increased by \$370,000 or 4% to \$10.9 million in the nine months ended September 30, 2019, from \$10.6 million in the nine months ended September 30, 2018. We believe higher sales of semiconductor sensors in the three months ended September 30, 2019 are due to initial signs of improvement in the global semiconductor capital equipment market, particularly with respect to foundry customers. In the nine months ended September 30, 2019, higher sales of semiconductor sensors are due to the recent improvement in market conditions, and incremental sales of WaferSense products in the first quarter of 2019 to Asian semiconductor manufacturing facilities commissioned in 2018. Sales of semiconductor sensors are forecasted to increase by more than 10% in the fourth quarter of 2019 on a year-over-year basis. Over the longer-term, we anticipate that the benefits from growing market awareness of our WaferSense products, improved account penetration at major semiconductor manufacturers and capital equipment suppliers and new product introductions will lead to additional WaferSense product sales.

Revenues from sales of inspection and metrology systems decreased by \$2.3 million or 29% to \$5.5 million in the three months ended September 30, 2019, from \$7.8 million in the three months ended September 30, 2018. Revenues from sales of inspection and metrology systems increased by \$2.2 million or 11% to \$22.6 million in the nine months ended September 30, 2019, from \$20.4 million in the nine months ended September 30, 2018. The revenue decrease in the three months ended September 30, 2019 was caused by sluggish market conditions in the global SMT and semiconductor capital equipment markets, resulting in lower year-over-year sales of both MRS-enabled SQ3000 3D AOI systems and legacy inspection systems. The revenue increase in the nine months ended September 30, 2019 resulted from higher sales of MRS-enabled SQ3000 3D AOI systems and sales of MX600 memory module inspection systems. Sales of MRS-enabled SQ3000 3D AOI systems increased by \$1.2 million or 14% to \$10.4 million in the nine months ended September 30, 2019, when compared to the nine months ended September 30, 2018. Strong year-over-year sales growth is forecasted for MRS-enabled SQ3000 3D AOI systems in the fourth quarter of 2019, due in part to the competitive advantages offered by our MRS technology. Sales of MX600 memory module inspection systems were approximately \$600,000 and \$3.3 million in the three and nine months ended September 30, 2019, respectively. There were no sales of MX600 memory module inspection systems in the three and nine months ended September 30, 2018. Sales of legacy 2D AOI and solder paste inspection systems were lower in the three and nine months ended September 30, 2019, when compared to the three and nine months ended September 30, 2018. Despite the anticipated sales growth for MRS-enabled SQ3000 AOI systems, slow sales of legacy products are expected to result in lower year-over-year sales of inspection and metrology systems in this year's fourth quarter.

We believe a growing number of companies are transitioning from 2D AOI to 3D AOI systems to meet the increasingly demanding product inspection requirements in the semiconductor, electronics and industrial markets. As a result, demand for 3D AOI systems is growing rapidly. We anticipate sales of MRS enabled SQ3000 3D AOI systems, including the new SQ3000™ 3D CMM system, will represent an increasing percentage of our total inspection and metrology system sales in the future. Also, 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.

Export revenues totaled \$9.6 million or 77% of our total revenues in the three months ended September 30, 2019, compared to \$11.9 million or 71% of total revenues in the three months ended September 30, 2018. Export revenues totaled \$31.1 million or 73% of our total revenues in the nine months ended September 30, 2019 compared to \$33.4 million or 72% of total revenues in the nine months ended September 30, 2018. Export revenue as a percentage of total revenue was higher in the three months ended September 30, 2019, when compared to the three months ended September 30, 2018, primarily due to lower sales of general industrial metrology systems and services, which are primarily sold in the United States. There was no significant change in export revenues as a percentage of total revenues in the nine months ended September 30, 2019, when compared to the nine months ended September 30, 2018.

Cost of Revenues and Gross Margin

Cost of revenues decreased by \$2.4 million or 26% to \$6.9 million in the three months ended September 30, 2019, from \$9.2 million in the three months ended September 30, 2018. Cost of revenues decreased by \$2.4 million or 10% to \$23.3 million in the nine months ended September 30, 2019, from \$25.7 million in the nine months ended September 30, 2018. The decrease in cost of revenues in both periods was due to a corresponding decrease in revenues. In the three and nine months ended September 30, 2019, revenues decreased by 26% and 9%, respectively.

Total gross margin as a percentage of revenues was 44% in the three months ended September 30, 2019, compared to 45% in the three months ended September 30, 2018. Total gross margin as a percentage of revenues was 45% in both the nine months ended September 30, 2019 and the nine months ended September 30, 2018. The small reduction in gross margin percentage in the three months ended September 30, 2019 was due to incremental expenses for inventory obsolescence and warranty costs, offset in part by a more favorable product mix. Sales of higher margin semiconductor sensors represented a larger percentage of our total revenues in the three months ended September 30, 2019, when compared to the three months ended September 30, 2018. Due to a more favorable product mix, total gross margins as a percentage of revenues in the fourth quarter of 2019 are expected to be higher on a year-over-year basis and higher to a lesser extent on a sequential quarterly basis.

Our markets are highly price competitive, particularly segments of the SMT market that have less demanding inspection requirements. As a result, we have experienced continual pressure on our gross margins. We compensate for the pressure to reduce the price of our products 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 current and future MRS-enabled SQ3000 3D AOI 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 ("R&D") expenses were \$2.4 million or 19% of revenues in the three months ended September 30, 2019, compared to \$2.2 million or 13% of revenues in the three months ended September 30, 2018. R&D expenses were \$7.0 million or 16% of revenues in the nine months ended September 30, 2019, compared to \$6.6 million or 14% of revenues in the nine months ended September 30, 2018. The increases in R&D expenses in both the three and nine months ended September 30, 2019 were the result of higher compensation costs for new and existing R&D employees, and expenses related to development of our next generation 3D NanoResolution MRS sensor, offset in part by lower bonus accruals for employees working in our R&D department. Current R&D expenditures are primarily focused on continued development of our 3D MRS technology, including sensor subsystems and the next generation NanoResolution sensor, and development of new applications and products for 3D wafer level, advanced packaging and memory module inspection.

Selling, general and administrative ("S,G&A") expenses were \$3.9 million or 31% of revenues in the three months ended September 30, 2019, compared to \$3.9 million or 24% of revenues in the three months ended September 30, 2018. S,G&A expenses were \$11.8 million or 28% of revenues in the nine months ended September 30, 2019, compared to \$12.4 million or 27% of revenues in the nine months ended September 30, 2018. The increases in S,G&A expenses as a percentage of revenues reflected our lower revenue levels. However, S,G&A expenses in the three and nine months ended September 30, 2019 were favorably impacted by lower compensation costs resulting from employee departures and lower bonus accruals and sales commissions resulting from the declines in our revenues and financial performance. In addition, S,G&A expenses in the three and nine months ended September 30, 2018 were decreased by an approximately \$200,000 reduction in our allowance for doubtful accounts, resulting from collection of a receivable that had been fully reserved for in a prior period.

Total operating expenses in the fourth quarter of 2019 are expected to be virtually unchanged on both a year-over-year and quarterly sequential basis.

Interest Income and Other

Interest income and other includes interest earned on investments and gains and losses associated with foreign currency transactions, primarily intercompany financing transactions associated with our subsidiaries in the United Kingdom, Singapore and China. In the three months ended September 30, 2019 and 2018, we recognized gains from foreign currency transactions of \$71,000 and \$37,000 respectively. In the nine months ended September 30, 2019 and 2018, we recognized gains from foreign currency transactions of \$45,000 and \$102,000, respectively.

Income Taxes

We recorded an income tax benefit of \$234,000 in the three months ended September 30, 2019, compared to income tax expense of \$297,000 in the three months ended September 30, 2018. We recorded income tax expense of \$92,000 in the nine months ended September 30, 2019, compared to income tax expense of \$444,000 in the nine months ended September 30, 2018. Our income tax benefit in the three months ended September 30, 2019 reflected an effective tax rate of approximately 40%, compared to an effective tax rate of approximately 22% in the three months ended September 30, 2018. Our income tax expense in the nine months ended September 30, 2019 reflected an effective tax rate of approximately 13%, compared to an effective tax rate of approximately 21% in the nine months ended September 30, 2018. Fluctuations in our effective tax rate in both the three and nine months ended September 30, 2019 are related to a non-cash income benefit resulting from the completion of an audit of our income taxes in the Singapore tax jurisdiction. In the nine months ended September 30, 2019 and 2018, excess tax benefits related to employee share based payments totaled \$11,000 and \$70,000, respectively. On a recurring basis, our effective income tax rate is significantly impacted by Global Intangible Low Tax Income and U.S. federal R&D tax credits.

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 could be 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 in which we operate, our financial performance in recent quarters, statutory carry-forward periods and tax planning alternatives. In addition, 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.

Backlog

Backlog totaled \$14.4 million at September 30, 2019, an increase from \$13.6 million at December 31, 2018, but down from \$19.7 million at September 30, 2018. 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 \$1.1 million in the nine months ended September 30, 2019. Cash provided by operating activities of \$916,000 and proceeds of \$6.1 million from maturities of marketable securities were more than offset by purchases of marketable securities totaling \$7.1 million and purchases of fixed assets and capitalized patent costs totaling \$1.2 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, and from other sources of cash. 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 were \$25.3 million as of both September 30, 2019 and December 31, 2018.

Operating activities provided \$916,000 of cash in the nine months ended September 30, 2019. The amount of cash provided by operations was favorably impacted by net income of \$606,000. Net income was affected by non-cash expenses totaling \$2.8 million for depreciation and amortization, provision for doubtful accounts, deferred income taxes, non-cash losses from foreign currency transactions, share-based compensation costs and an unrealized loss on our available-for-sale equity security. Changes in operating assets and liabilities providing cash in the nine months ended September 30, 2019, included a decrease in accounts receivable of \$2.6 million, a decrease in other assets of \$235,000 and an increase in operating lease assets and liabilities of \$482,000. Changes in operating assets and liabilities using cash in the nine months ended September 30, 2019 included an increase in inventories of \$1.1 million, a decrease in accounts payable of \$3.5 million and a decrease in accrued expenses of \$1.1 million. Accounts receivable decreased due to lower sales in the third quarter of 2019, compared to the fourth quarter of 2018, offset in part by slower collection of accounts receivable. Sales of inspection and metrology systems, which typically have longer collection periods than sales of our sensor products, have constituted a larger portion of our revenues in recent quarters. Other assets decreased because deposits previously paid to a key supplier of materials were used to purchase inventories. The increase in operating lease assets and liabilities resulted from lease incentives, including free rent and facility operating costs, and the effects of straight-line rent expense. Inventories increased due to sluggish conditions in the global SMT and semiconductor capital equipment markets, with a corresponding negative impact on sales, causing inventory levels to rise. Accounts payable decreased in the third quarter of 2019 due to the timing of inventory purchases, with more raw materials being acquired in the fourth quarter of 2018 and the first half of 2019. These materials were subsequently paid for prior to September 30, 2019, resulting in a lower accounts payable balance. Accrued expenses decreased due to lower compensation accruals at September 30, 2019, resulting from payment of 2018 bonuses in early 2019, and payment of employee wages near the end of the third quarter.

Investing activities used \$2.1 million of cash in the nine months ended September 30, 2019. Changes in the level of investment in marketable securities, resulting from purchases and maturities of those securities, used \$936,000 of cash in the nine months ended September 30, 2019. We used \$1.2 million of cash in the nine months ended September 30, 2019 for the purchase of fixed assets and capitalized patent costs.

Financing activities provided \$23,000 of cash in the nine months ended September 30, 2019. Proceeds from the exercise of stock options and share purchases under our employee stock purchase plan provided \$376,000 of cash in the nine months ended September 30, 2019. In July 2019, our Board of Directors authorized a \$3.0 million share repurchase program through June 30, 2020. Share repurchases under this program used \$353,000 of cash in the nine months ended September 30, 2019.

At September 30, 2019, 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. These entities are established by some companies for the purpose of establishing off-balance sheet arrangements or for other contractually narrow or limited purposes.

We believe that on-hand cash, cash equivalents and marketable securities, coupled with anticipated future cash flow from operations, will be adequate to fund our cash flow needs for the foreseeable future.

ITEM 3 – QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

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. There was no 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, 2018, 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

In July 2019, our Board authorized the repurchase of up to \$3.0 million of shares of our common stock. The common stock will be acquired from time to time in open market transactions, block purchases and other transactions complying with Rule 10b-18 of the Securities and Exchange Commission.

Company Repurchase of Equity Securities

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Program	(d) Approximate Value of Shares that May Yet Be Purchased Under the Program
July 1, 2019 to July 31, 2019	8,575	\$ 13.61	8,575	\$ 2,883,316
August 1, 2019 to August 31, 2019	17,410	\$ 13.60	17,410	\$ 2,646,592
September 1, 2019 to September 30, 2019	—	\$ —	—	\$ 2,646,592
Total	25,985	\$ 13.60	25,985	\$ 2,646,592

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 Statements 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

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

/s/ Jeffrey A. Bertelsen

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

Dated: November 6, 2019

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: November 6, 2019

/s/ Subodh Kulkarni

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: November 6, 2019

/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 September 30, 2019 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

Subodh Kulkarni
President and Chief Executive Officer
November 6, 2019

/s/ Jeffrey A. Bertelsen

Jeffrey A. Bertelsen
Vice President, Chief Financial Officer and Chief Operating Officer
November 6, 2019

END OF FILING