UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended June 30, 2020

OR

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

For the transition period from __________ to __________

Commission File Number: 001-36083

Applied Optoelectronics, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**76-0533927**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

13139 Jess Pirtle Blvd.
Sugar Land, TX 77478
(Address of principal executive offices)

(281) 295-1800
(Registrant’s telephone number)

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

Title of each class	Trading Symbol(s)	Trading Name of each exchange on which registered
Common Stock, Par value $0.001	AAOI	NASDAQ Global Market

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

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

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

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

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

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

As of July 31, 2020 there were 22,773,963 shares of the registrant’s Common Stock outstanding.

Applied Optoelectronics, Inc.
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Part I. Financial Information

Item 1. Condensed Consolidated Financial Statements

Applied Optoelectronics, Inc. and Subsidiaries
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited, in thousands)

	June 30, 2020	December 31, 2019
ASSETS		
Current Assets		
Cash and cash equivalents	$ 51,131	$ 59,977
Restricted cash	7,778	7,051
Accounts receivable - trade, net of allowance of $30 and $30, respectively	50,029	34,655
Inventories	97,251	85,028
Prepaid income tax	210	224
Prepaid expenses and other current assets	6,610	5,869
Total current assets	213,009	192,804
Property, plant and equipment, net	244,126	248,444
Land use rights, net	5,455	5,598
Operating right of use asset	7,552	7,768
Financing right of use asset	104	119
Intangible assets, net	4,006	4,081
Deferred income tax assets	2,136	7,287
Other assets, net	1,703	724
TOTAL ASSETS	$ 478,091	$ 466,825
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		

Current portion of notes payable and long-term debt	$ 42,234	$ 33,371
Accounts payable	51,154	32,828
Bank acceptance payable	9,866	6,310
Current lease liability - operating	941	965
Current lease liability - financing	17	17
Accrued liabilities	15,557	17,864
Total current liabilities	119,769	91,355
Notes payable and long-term debt, less current portion	15,542	16,552
Convertible senior notes	77,439	77,041
Non-current lease liability - operating	7,795	7,983
Non-current lease liability - financing	91	100
TOTAL LIABILITIES	220,636	193,031
Stockholders' equity:		
Preferred Stock; 5,000 shares authorized at $0.001 par value; no shares issued and outstanding at June 30, 2020 and December 31, 2019, respectively	-	-
Common Stock; 45,000 shares authorized at $0.001 par value; 21,941 and 20,141 shares issued and outstanding at June 30, 2020 and December 31, 2019, respectively	22	20
Additional paid-in capital	323,405	303,401
Accumulated other comprehensive (loss) and income	(518)	430
Accumulated deficit	(65,454)	(30,057)
TOTAL STOCKHOLDERS' EQUITY	257,455	273,794
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 478,091	$ 466,825

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

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Applied Optoelectronics, Inc. and Subsidiaries
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited, in thousands, except share and per share data)

	Three months ended June 30,		Six months ended June 30,	
	2020	**2019**	**2020**	**2019**
Revenue, net	$ 65,222	$ 43,411	$ 105,689	$ 96,130
Cost of goods sold	51,486	32,873	85,615	73,241
Gross profit	13,736	10,538	20,074	22,889
Operating expenses				
Research and development	10,803	11,151	21,361	22,336
Sales and marketing	3,430	2,331	6,366	4,926
General and administrative	10,611	10,884	21,249	21,324
Total operating expenses	24,844	24,366	48,976	48,586
Loss from operations	(11,108)	(13,828)	(28,902)	(25,697)
Other income (expense)				
Interest income	47	310	194	382
Interest expense	(1,489)	(1,490)	(2,944)	(2,486)
Other income (expense), net	974	451	1,231	296
Total other income (expense), net	(468)	(729)	(1,519)	(1,808)
Loss before income taxes	(11,576)	(14,557)	(30,421)	(27,505)
Income tax benefit (expense)	(7,024)	3,191	(4,976)	5,665
Net loss	$ (18,600)	$ (11,366)	$ (35,397)	$ (21,840)
Net loss per share				
Basic	$ (0.89)	$ (0.57)	$ (1.72)	$ (1.10)
Diluted	$ (0.89)	$ (0.57)	$ (1.72)	$ (1.10)
Weighted average shares used to compute net loss per share:				
Basic	20,858,450	19,931,745	20,533,417	19,897,602
Diluted	20,858,450	19,931,745	20,533,417	19,897,602

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

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Applied Optoelectronics, Inc. and Subsidiaries
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited, in thousands)

	Three months ended June 30,		Six months ended June 30,	
	2020	**2019**	**2020**	**2019**

Net loss	$ (18,600)	$ (11,366)	$ (35,397)	$ (21,840)
Loss (gain) on foreign currency translation adjustment	1,454	(3,329)	(948)	(981)
Comprehensive loss	$ (17,146)	$ (14,695)	$ (36,345)	$ (22,821)

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

Applied Optoelectronics, Inc. and Subsidiaries
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
Three and Six Months ended June 30, 2020 and 2019
(Unaudited, in thousands)

	Preferred Stock		Common Stock					
	Number of shares	Amount	Number of shares	Amount	Additional paid-in capital	Accumulated other comprehensive gain (loss)	Accumulated deficit	Stockholders' equity
March 31, 2020	—	$ —	20,249	$ 20	$ 306,305	$ (1,972)	$ (46,854)	$ 257,499
Public offering of common stock, net	—	—	1,578	2	14,002	—	—	14,004
Stock options exercised, net of shares withheld for employee tax	—	—	—	—	3	—	—	3
Issuance of restricted stock, net of shares withheld for employee tax	—	—	113	—	(207)	—	—	(207)
Share-based compensation	—	—	—	—	3,302	—	—	3,302
Foreign currency translation adjustment	—	—	—	—	—	1,454	—	1,454
Net loss	—	—	—	—	—	—	(18,600)	(18,600)
June 30, 2020	—	$ —	21,940	$ 22	$ 323,405	$ (518)	$ (65,454)	$ 257,455

	Preferred Stock		Common Stock					
	Number of shares	Amount	Number of shares	Amount	Additional paid-in capital	Accumulated other comprehensive gain (loss)	Retained earnings	Stockholders' equity
March 31, 2019	—	$ —	19,888	$ 20	$ 295,130	$ 2,950	$ 25,518	$ 323,618
Issuance of restricted stock, net of shares withheld for employee tax	—	—	63	—	(227)	—	—	(227)
Share-based compensation	—	—	—	—	3,019	—	—	3,019
Foreign currency translation adjustment	—	—	—	—	—	(3,329)	—	(3,329)
Net loss	—	—	—	—	—	—	(11,366)	(11,366)
June 30, 2019	—	$ —	19,951	$ 20	$ 297,922	$ (379)	$ 14,152	$ 311,715

	Preferred Stock		Common Stock					
	Number of shares	Amount	Number of shares	Amount	Additional paid-in capital	Accumulated other comprehensive gain (loss)	Accumulated deficit	Stockholders' equity
January 1, 2020	—	$ —	20,140	$ 20	$ 303,401	$ 430	$ (30,057)	$ 273,794
Public offering of common stock, net	—	—	1,582	2	13,928	—	—	13,930
Stock options exercised, net of shares withheld for employee tax	—	—	—	—	3	—	—	3
Issuance of restricted stock, net of shares withheld for employee tax	—	—	218	—	(467)	—	—	(467)
Share-based compensation	—	—	—	—	6,540	—	—	6,540
Foreign currency translation adjustment	—	—	—	—	—	(948)	—	(948)
Net loss	—	—	—	—	—	—	(35,397)	(35,397)
June 30, 2020	—	$ —	21,940	$ 22	$ 323,405	$ (518)	$ (65,454)	$ 257,455

	Preferred Stock		Common Stock					
	Number of shares	Amount	Number of shares	Amount	Additional paid-in capital	Accumulated other comprehensive gain (loss)	Retained earnings	Stockholders' equity
January 1, 2019	—	$ —	19,810	$ 20	$ 292,480	$ 602	$ 35,992	$ 329,094
Stock options exercised, net of shares withheld for employee tax	—	—	—	—	7	—	—	7
Issuance of restricted stock, net of shares withheld for employee tax	—	—	141	—	(526)	—	—	(526)
Share-based compensation	—	—	—	—	5,961	—	—	5,961
Foreign currency translation adjustment	—	—	—	—	—	(981)	—	(981)
Net loss	—	—	—	—	—	—	(21,840)	(21,840)
June 30, 2019	—	$ —	19,951	$ 20	$ 297,922	$ (379)	$ 14,152	$ 311,715

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

Applied Optoelectronics, Inc. and Subsidiaries
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited, in thousands)

	Six months ended June 30,	
	2020	2019
Operating activities:		
Net loss	$ (35,397)	$ (21,840)
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Provision for losses on accounts receivable	1	—
Lower of cost or market reserve adjustment to inventory	2,924	5,207
Depreciation and amortization	12,154	11,964
Amortization of debt issuance costs	444	457
Deferred income taxes, net	5,147	(5,770)
Loss on disposal of assets	9	10
Share-based compensation	6,540	5,961
Unrealized foreign exchange gain	(134)	(171)
Changes in operating assets and liabilities:		
Accounts receivable, trade	(9,690)	2,128
Notes receivable	(49)	(137)
Prepaid income tax	13	(127)
Inventories	(15,362)	6,346
Other current assets	(725)	5,579
Operating right of use asset	300	561
Accounts payable	12,688	1,615
Accrued liabilities	(2,323)	(4,043)
Lease liability	(309)	(573)
Net cash provided by (used in) operating activities	(23,769)	7,167
Investing activities:		
Purchase of property, plant and equipment	(6,759)	(26,286)
Proceeds from disposal of equipment	52	1
Deposits and prepaid for equipment	(2,304)	5,763
Purchase of intangible assets	(208)	(316)
Net cash used in investing activities	(9,219)	(20,838)
Financing activities:		
Proceeds from issuance of notes payable and long-term debt, net of debt issuance costs	6,229	10,537
Principal payments of long-term debt and notes payable	(2,221)	(41,203)
Proceeds from line of credit borrowings	52,637	38,473
Repayments of line of credit borrowings	(48,689)	(42,211)
Proceeds from bank acceptance payable	14,080	4,471
Repayments of bank acceptance payable	(10,377)	(6,575)
Proceeds from issuance of convertible senior notes, net of debt issuance costs	(16)	76,364
Principal payments of financing lease	(8)	—
Exercise of stock options	3	7
Payments of tax withholding on behalf of employees related to share-based compensation	(466)	(526)
Proceeds from common stock offering, net	13,929	—
Net cash provided by financing activities	25,101	39,337
Effect of exchange rate changes on cash	(232)	317
Net increase (decrease) in cash, cash equivalents and restricted cash	(8,119)	25,983
Cash, cash equivalents and restricted cash at beginning of period	67,028	58,004
Cash, cash equivalents and restricted cash at end of period	$ 58,909	$ 83,987
Supplemental disclosure of cash flow information:		
Cash paid (received) for:		
Interest, net of amounts capitalized	$ 2,478	$ 498
Income taxes	(192)	224
Non-cash investing and financing activities:		
Purchase of property and equipment with line of credit borrowings	941	—
Net change in accounts payable related to property and equipment additions	(710)	777
Net change in deposits and prepaid for equipment related to property and equipment additions	1,327	—

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

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Applied Optoelectronics, Inc. and Subsidiaries
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Note 1. Description of Business

Business Overview

Applied Optoelectronics, Inc. (“AOI” or the “Company”) is a Delaware corporation. The Company is a leading, vertically integrated provider of fiber-optic networking products, primarily for four networking end-markets: internet data center, cable television ("CATV"), telecommunications ("telecom") and fiber-to-the-home ("FTTH"). The Company designs and manufactures a wide range of optical communications products at varying levels of integration, from components, subassemblies and modules to complete turn-key equipment.

The Company has manufacturing and research and development facilities located in the U.S., Taiwan and China. In the U.S., at its corporate headquarters and manufacturing facilities in Sugar Land, Texas, the Company primarily manufactures lasers and laser components and performs research and development activities for laser component and optical module products. In addition, the Company also has a research and development facility in Duluth, Georgia. The Company operates in Taipei, Taiwan and Ningbo, China through its wholly-owned subsidiary Prime World International Holdings, Ltd. (“Prime World”, incorporated in the British Virgin Islands). Prime World operates a branch in Taipei, Taiwan, which primarily manufactures transceivers and performs research and development activities for the transceiver products. Prime World is also the parent of Global Technology, Inc. (“Global”, incorporated in the People’s Republic of China). Through Global, the Company primarily manufactures certain of its data center transceiver products, including subassemblies, as well as CATV systems and equipment, and performs research and development activities for the CATV products.

Interim Financial Statements

The unaudited condensed consolidated financial statements of the Company as of June 30, 2020 and December 31, 2019 and for the three and six months ended June 30, 2020 and June 30, 2019, have been prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”) for interim information and with the instructions on Form 10-Q and Rule 10-01 of Regulation S-X pursuant to the rules and regulations of the Securities and Exchange Commission (“SEC”). In accordance with those rules and regulations, the Company has omitted certain information and notes required by GAAP for annual consolidated financial statements. In the opinion of management, the condensed consolidated financial statements contain all adjustments, except as otherwise noted, necessary for the fair presentation of the Company’s financial position and results of operations for the periods presented. The year-end condensed balance sheet data was derived from audited financial statements. These condensed consolidated financial statements should be read in conjunction with the Consolidated Financial Statements and Notes thereto included in the Company’s Annual Report on Form 10-K (“Annual Report”) for the fiscal year ended December 31, 2019. The results of operations for the three and six months ended June 30, 2020 are not necessarily indicative of the results expected for the entire fiscal year. All significant inter-company accounts and transactions have been eliminated.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported. Actual results could differ from those estimates in the consolidated financial statements and accompanying notes. Significant estimates and assumptions that impact these financial statements and the accompanying notes relate to, among other things, allowance for credit losses, inventory reserve, product warranty costs, share-based compensation expense, estimated useful lives of property and equipment, and taxes.

Note 2. Significant Accounting Policies

There have been no changes in the Company’s significant accounting policies for the three and six months ended June 30, 2020, as compared to the significant accounting policies described in its 2019 Annual Report, except as described below.

Recent Accounting Pronouncements

Recent Accounting Pronouncements Adopted in 2020

In June 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-13 Financial Instruments - Credit Losses, Measurement of Credit Losses on Financial Instruments, which changes the way entities measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net earnings. The Company adopted this ASU as of January 1, 2020. The adoption of the new standard did not have a material impact on the Company's condensed consolidated financial statements as current processes for estimating expected credit losses for trade receivables align with the expected credit loss model. The Company estimates its allowance for credit losses based on historical collection trends, the age of outstanding receivables, geographical location of the customer, existing economic conditions and reasonable forecasts, If events or changes in circumstances indicate that specific receivable balances may be impaired, further consideration is given to the collectability of those balances and the allowance is adjusted accordingly.

In March 2020, the FASB issued ASU 2020-03, “Codification Improvements to Financial Instruments” improves and clarifies various financial instruments topics. This ASU includes seven different issues that describe the areas of improvement and the related amendments to GAAP, intended to make the standards easier to understand and apply by eliminating inconsistencies and providing clarifications. The Company adopted ASU 2020-03 upon issuance, which did not have a material effect on the Company’s current financial position, results of operations or financial statement disclosures.

Recent Accounting Pronouncements Yet to be Adopted

In December 2019, the FASB issued ASU 2019-12, “Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes”. The Accounting Standards Codification ("ASC") aims to identify, evaluate, and improve areas of GAAP for which cost and complexity can be reduced while maintaining or improving the usefulness of the information provided to users of financial statements. The Company is currently assessing the impact of this pronouncement to the financial statements.

In March 2020, the FASB issued ASU 2020-04, “Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting”, which provides temporary optional expedients and exceptions to the GAAP guidance on contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. This ASU is effective beginning on March 12, 2020, and the Company may elect to apply the amendments prospectively through December 31, 2022. The Company is currently assessing the impact of this pronouncement to the financial statements.

Note 3. Revenue Recognition

Disaggregation of Revenue

Revenue is classified based on the location of where the product is manufactured. For additional information on the disaggregated revenues by geographical region, see Note 17, "Geographic Information.”

Revenue is also classified by major product category and is presented below (in thousands):

	Three months ended June 30,			
	2020	% of Revenue	2019	% of Revenue
Data Center	$ 52,533	80.5%	$ 31,806	73.3%
CATV	6,141	9.4%	9,818	22.6%
Telecom	6,170	9.5%	1,630	3.8%
FTTH	1	0.0%	16	0.0%
Other	377	0.6%	141	0.3%
Total Revenue	$ 65,222	100.0%	$ 43,411	100.0%

	Six months ended June 30,			
	2020	% of Revenue	2019	% of Revenue
Data Center	$ 85,797	81.2%	$ 70,305	73.1%
CATV	10,364	9.8%	21,780	22.7%
Telecom	8,730	8.3%	3,368	3.5%
FTTH	1	0.0%	110	0.1%
Other	797	0.7%	567	0.6%
Total Revenue	$ 105,689	100.0%	$ 96,130	100.0%

Note 4. Leases

The Company leases space under non-cancellable operating leases for manufacturing facilities, research and development offices and certain storage facilities and apartments. These leases do not contain contingent rent provisions. The Company also leases certain machinery, office equipment and a vehicle. Many of its leases include both lease (e.g. fixed payments including rent, taxes, and insurance costs) and non-lease components (e.g. common-area or other maintenance costs) which are accounted for as a single lease component as the Company has elected the practical expedient to group lease and non-lease components for all leases. Several of the leases include one or more options to renew which have been assessed and either included or excluded from the calculation of the lease liability of the right of use ("ROU") asset based on management’s intentions and individual fact patterns. Several warehouses and apartments have non-cancellable lease terms of less than one-year and therefore, the Company has elected the practical expedient to exclude these short-term leases from its ROU asset and lease liabilities.

As most of the Company’s leases do not provide an implicit rate, the Company uses its incremental borrowing rate, which is the rate incurred to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment. Based on the applicable lease terms and current economic environment, the Company applies a location approach for determining the incremental borrowing rate.

The Components of lease expense were as follows for the periods indicated (in thousands):

	Three months ended June 30,	
	2020	2019
Operating lease expense	$ 296	$ 318
Financing lease expense	8	—
Short Term lease expense	37	51
Total lease expense	$ 341	$ 369

Maturities of lease liabilities are as follows for the future one-year periods ending June 30, (in thousands):

	Operating	Financing
2021	$ 1,268	$ 22
2022	1,227	22
2023	1,171	22
2024	1,113	55
2025	1,123	—
2026 and thereafter	4,572	—
Total lease payments	$ 10,474	$ 121
Less imputed interest	(1,738)	(13)
Present value	$ 8,736	$ 108

The weighted average remaining lease term and discount rate for operating leases were as follows for the periods indicated:

	Six months ended June 30,	
	2020	2019
Weighted Average Remaining Lease Term (Years) - operating leases	8.65	9.69
Weighted Average Remaining Lease Term (Years) - financing leases	3.33	—
Weighted Average Discount Rate - operating leases	3.16%	3.13%
Weighted Average Discount Rate - financing leases	5.00%	—

Supplemental cash flow information related to operating leases was as follows for the periods indicated (in thousands):

	Six months ended June 30,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	640	676
Operating cash flows from financing lease	3	—
Financing cash flows from financing lease	8	—
Right-of-use assets obtained in exchange for new operating lease liabilities	261	15

Note 5. Cash, Cash Equivalents and Restricted Cash

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the statement of financial position that sum to the total of the same such amounts in the statement of cash flows (in thousands):

	June 30, 2020	December 31, 2019
Cash and cash equivalents	$ 51,131	$ 59,977
Restricted cash	7,778	7,051
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	$ 58,909	$ 67,028

Restricted cash includes guarantee deposits for customs duties, research and development equipment additions, and compensating balances required for certain credit facilities. As of June 30, 2020 and December 31, 2019, there was $3.2 million and $1.9 million of restricted cash required for bank acceptance notes issued to vendors, respectively. In addition, there was $1.9 million and $4.2 million certificate of deposit associated with credit facilities with a bank in China as of June 30, 2020 and December 31, 2019 respectively.

Note 6. Earnings (Loss) Per Share

Basic net loss per share has been computed using the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share has been computed using the weighted-average number of shares of common stock and dilutive potential common shares from stock options, restricted stock units and senior convertible notes outstanding during the period. In periods with net losses, normally dilutive shares become anti-dilutive. Therefore, basic and diluted loss per share are the same.

The following table sets forth the computation of the basic and diluted net loss per share for the periods indicated (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Numerator:				
Net loss	$ (18,600)	$ (11,366)	$ (35,397)	$ (21,840)
Denominator:				
Weighted average shares used to compute net loss per share				
Basic	20,858	19,932	20,533	19,898
Diluted	20,858	19,932	20,533	19,898
Net loss per share				
Basic	$ (0.89)	$ (0.57)	$ (1.72)	$ (1.10)
Diluted	$ (0.89)	$ (0.57)	$ (1.72)	$ (1.10)

The following potentially dilutive securities were excluded from the diluted net loss per share as their effect would have been antidilutive (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Employee stock options	11	29	13	63
Restricted stock units	10	—	13	2
Shares for convertible senior notes	4,587	4,587	4,587	4,587
Total antidilutive shares	4,608	4,616	4,613	4,652

Note 7. Inventories

Inventories, net of inventory write-downs, consist of the following for the periods indicated (in thousands):

	June 30, 2020	December 31, 2019
Raw materials	$ 33,808	$ 15,570
Work in process and sub-assemblies	53,049	50,787
Finished goods	10,394	18,671
Total inventories	$ 97,251	$ 85,028

The lower of cost or market adjustment expensed for inventory for the three months ended June 30, 2020 and 2019 was $1.3 million and $2.9 million, respectively. The lower of cost or market adjustment expensed for inventory for the six months ended June 30, 2020 and 2019 was $2.9 million and $5.2 million, respectively.

For the three months ended June 30, 2020 and 2019, the direct inventory write-offs related to scrap, discontinued products, and damaged inventories were $3.7 million and $2.4 million, respectively. For the six months ended June 30, 2020 and 2019, the direct inventory write-offs related to scrap, discontinued products, and damaged inventories were $6.2 million and $5.2 million, respectively.

Note 8. Property, Plant & Equipment

Property, plant and equipment consisted of the following for the periods indicated (in thousands):

	June 30, 2020	December 31, 2019
Land improvements	$ 806	$ 806
Building and improvements	84,375	83,846
Machinery and equipment	239,213	237,464
Furniture and fixtures	5,276	5,105
Computer equipment and software	11,123	10,506
Transportation equipment	657	658
	341,450	338,385
Less accumulated depreciation and amortization	(126,778)	(116,979)
	214,672	221,406
Construction in progress	28,353	25,937
Land	1,101	1,101
Total property, plant and equipment, net	$ 244,126	$ 248,444

For the three months ended June 30, 2020 and 2019, depreciation expense of property, plant and equipment was $6.0 million and $5.9 million, respectively. For the six months ended June 30, 2020 and 2019, depreciation expense of property, plant and equipment was $11.9 million and $11.7 million, respectively. As of June 30, 2020 and December 31, 2019, there was $0.4 million and $0.2 million of capitalized interest.

As of June 30, 2020, the Company concluded that its continued loss history constitutes a triggering event as described in ASC *360-10-35-21,Property, Plant, and Equipment*. The Company performed a recoverability test and concluded that future undiscounted cash flows exceed the carrying amount of the Company's long-lived assets and therefore no impairment charge was recorded.

Note 9. Intangible Assets, net

Intangible assets consisted of the following for the periods indicated (in thousands):

	June 30, 2020		
	Gross Amount	Accumulated amortization	Intangible assets, net
Patents	$ 7,850	$ (3,850)	$ 4,000
Trademarks	20	(14)	6
Total intangible assets	$ 7,870	$ (3,864)	$ 4,006

	December 31, 2019		
	Gross Amount	Accumulated amortization	Intangible assets, net
Patents	$ 7,638	$ (3,560)	$ 4,078
Trademarks	17	(14)	3
Total intangible assets	$ 7,655	$ (3,574)	$ 4,081

For the three months ended June 30, 2020 and 2019, amortization expense for intangible assets, included in general and administrative expenses on the income statement, was each $0.1 million. For the six months ended June 30, 2020 and 2019, amortization expense for intangible assets, included in general and administrative expenses on the income statement, was each $0.3 million. The remaining weighted average amortization period for intangible assets is approximately 7 years.

At June 30, 2020, future amortization expense for intangible assets is estimated to be (in thousands):

2021	$ 561
2022	561
2023	561
2024	561
2025	561
thereafter	1,201
	$ 4,006

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Note 10. Fair Value of Financial Instruments

The following table represents a summary of the Company's financial instruments measured at fair value on a recurring basis for the periods indicated (in thousands):

	As of June 30, 2020				As of December 31, 2019			
	(Level 1)	(Level 2)	(Level 3)	Total	(Level 1)	(Level 2)	(Level 3)	Total
Assets:								
Cash and cash equivalents	$ 51,131	$ —	$ —	$ 51,131	$ 59,977	$ —	$ —	$ 59,977
Restricted cash	7,778	—	—	7,778	7,051	—	—	7,051
Total assets	$ 58,909	$ —	$ —	$ 58,909	$ 67,028	$ —	$ —	$ 67,028
Liabilities:								
Bank acceptance payable	—	$ 9,866	—	$ 9,866	—	$ 6,310	—	6,310
Convertible senior notes	—	68,591	—	68,591	—	77,191	—	77,191
Total liabilities	$ —	$ 78,457	$ —	$ 78,457	$ —	$ 83,501	$ —	$ 83,501

The carrying value amounts of accounts receivable, prepaid expenses and other current assets, accounts payable, accrued expenses and other current liabilities approximate fair value because of the short-term maturity of these instruments. The carrying value amounts of bank acceptances approximate fair value due to the short-term nature of the debt since it renews frequently at current interest rates. The Company believes that the interest rates in effect at each period end represent the current market rates for similar borrowings.

The fair value of its convertible senior debt is measured for disclosure purpose. The fair value is based on observable market prices for this debt, which is traded in less active markets and are therefore classified as a Level 2 fair value measurement.

Note 11. Notes Payable and Long-Term Debt

Notes payable and long-term debt consisted of the following for the periods indicated (in thousands):

	June 30, 2020	December 31, 2019
Revolving line of credit with a U.S. bank up to $20,000 with interest at LIBOR plus 1.5% , maturing April 2, 2021	$ 18,741	$ 20,000
Paycheck Protection Program Term Note with interest at fixed rate 1.0%, maturing April 16, 2022	6,229	—
Revolving line of credit with a Taiwan bank up to $3,336 with 2.2% interest, maturing July 31, 2020	3,375	3,336
Notes payable to a finance company due in monthly installments with 3.4% interest, maturing November 30, 2021	3,187	4,262
Notes payable to a finance company due in monthly installments with 3.1% interest, maturing January 21, 2022	3,562	4,633
Revolving line of credit with a Taiwan bank up to $2,668 with interest of 1.7%, maturing April 11, 2020	—	2,668
Revolving line of credit with a China bank up to $8,917 with interest ranging from 4.5%, maturing October 14, 2020	977	—
Revolving line of credit with a China bank up to $25,449 with interest from 3.01% to 4.57%, maturing May 24, 2024	9,698	7,919
Credit facility with a China bank up to $14,125 with interest of 3.5%, maturing November 7, 2020	4,999	—
Credit facility with a China bank up to $7,167 with interest of 5.7%, maturing from June 20, 2022	7,063	7,167
Sub-total	57,831	49,985
Less debt issuance costs, net	(55)	(62)
Grand total	57,776	49,923
Less current portion	(42,234)	(33,371)
Non-current portion	$ 15,542	$ 16,552

Bank Acceptance Notes Payable		
Bank acceptance notes issued to vendors with a zero percent interest rate	$ 9,866	$ 6,310

The current portion of long-term debt is the amount payable within one year of the balance sheet date of June 30, 2020.

Maturities of long-term debt are as follows for the future one-year periods ending June 30, (in thousands):

2021	$	42,234
2022		15,542
Total outstanding	$	57,776

On September 28, 2017, the Company entered into a Loan Agreement ("Loan Agreement"), a Promissory Note, an Addendum to the Promissory Note, a Truist Bank Security Agreement, a Trademark Security Agreement, and a Patent Security Agreement (together the "Credit Facility") with Truist Bank (which acquired Branch Banking and Trust Company or BB&T in connection with a merger in December 2019). The Credit Facility provides the Company with a three-year, $50 million, revolving line of credit. Borrowings under the Credit Facility will be used for general corporate purposes. The Company makes monthly payments of accrued interest with the final monthly payment being for all principal and all accrued interest not yet paid. The Company's obligations under the Credit Facility are secured by the Company's accounts receivable, inventory, intellectual property, and all business assets with the exception of real estate and equipment. Borrowings under the Credit Facility bear interest at a rate equal to the one-month LIBOR plus 1.50%. The Credit Facility requires the Company to maintain certain financial covenants and also contains representations and warranties, and events of default applicable to the Company that are customary for agreements of this type.

On March 30, 2018, the Company executed a First Amendment to Loan Agreement, a Note Modification Agreement and Addendum to Promissory Note for $60 million, a Promissory Note and Addendum to Promissory Note for $26 million, a Promissory Note and Addendum to Promissory Note for $21.5 million, a Texas Deed of Trust and Security Agreement, an Assignment of Lease and Rent, and an Environmental Certification and Indemnity Agreement, (collectively, the "Amended Credit Facility"), with Truist Bank. The Amended Credit Facility amends the Company's three-year $50 million line of credit with Truist Bank, originally executed on September 28, 2017. The Amended Credit Facility (1) increases the principal amount of the three-year line of credit from $50 million to $60 million (the "Line of Credit"); (2) allows the Company to borrow an additional $26 million from Truist Bank in the form of a five-year capital expenditure loan (the "CapEx Loan") and (3) allows the Company to borrow an additional $21.5 million in the form of a seventy-month real estate term loan (the "Term Loan") to refinance the Company's plant and facilities in Sugar Land, Texas. Borrowings under the Line of Credit bear interest at a rate equal to the one-month LIBOR plus a Line of Credit margin ranging between 1.40% and 2.0%. Borrowings under the CapEx Loan bear interest at a rate equal to the one-month LIBOR plus a CapEx Loan margin ranging between 1.30% and 2.0%. Borrowings under the Term Loan bear interest at a rate equal to the one-month LIBOR plus a Term Loan margin ranging between 1.15% and 2.0%. The Company is required to make monthly payments of principal and accrued interest with the final monthly payments being for all principal and accrued interest not yet paid. The Company's obligations under the Amended Credit Facility are secured by the Company's accounts receivable, inventory, equipment, intellectual property, real property, and virtually all business assets.

On February 1, 2019, the Company executed a Second Amendment to Loan Agreement ("Second Amendment") with Truist Bank. The original loan agreement with Truist Bank, executed on September 28, 2017, and a first amendment to the original loan agreement, executed on March 30, 2018, provided the Company with a three-year $60 million line of credit; a $26 million five-year CapEx Loan and a $21.5 million seventy-month real estate term loan for the Company's plant and facilities in Sugar Land, Texas. The Second Amendment extends the CapEx Loan draw-down date from March 30, 2019 to June 30, 2020, requires the Company to provide Truist Bank monthly financial statements and allows additional unfinanced capital expenditures.

On March 5, 2019, the Company executed a Third Amendment to Loan Agreement (the "Third Amendment") with Truist Bank pursuant to which the Company has established a revolving credit line used for working capital purposes. The Third Amendment, among other things: (i) contemplates the issuance of the Notes (as defined in Note 12 below) and the subsequent conversion of the Notes into common stock in accordance with the terms of the Indenture, including the payment of cash for any fractional shares; (ii) adjusts pricing of the unused line fee to 0.20% per annum; (iii) reduces the maximum commitment under the line of credit from $60,000,000 to $25,000,000; and (iv) provides that, so long as the Company's utilization of the revolving credit line is not greater than 60% of the available commitment, the Company will not be required to comply with its financial covenants, including its fixed charge coverage ratio or funded debt to EBITDA covenant, and provided that, such restriction on utilization will not apply during the period of time commencing seven business days prior to the end of any fiscal quarter through seven business days after the subsequent fiscal quarter.

On March 5, 2019, the Company used approximately $37.8 million of the net proceeds from the offering of the Notes to fully repay the CapEx Loan and Term Loan with Truist Bank.

On September 30, 2019, the Company executed a Fourth Amendment to Loan Agreement (the "Fourth Amendment") with Truist Bank. Under the terms of the Fourth Amendment (i) the maximum commitment under the line of credit was reduced from $25,000,000 to $20,000,000; (ii) the maturity date of the line of credit was extended from September 28, 2020 to April 2, 2021; (iii) pricing of the unused line fee was adjusted to 0.30% per annum; and (iv) the Covenant Threshold Amount test created in the Third Amendment was removed and replaced with the requirement that if, at any time during any reporting period and pursuant to the most recent loan base report received by Truist Bank, the principal balance outstanding under the line of credit exceeds the lesser of the approved maximum amount of the line of credit commitment amount or the collateral loan value reduced by the reserves, the Company shall immediately prepay the line of credit to the extent necessary to eliminate such excess. Such reserves shall, at any time that the fixed charge coverage ratio for the loan is less than 1.5 to 1.0, tested for the period of twelve months ended on the applicable covenant measurement date, equal to an amount equal to seventy-five percent (75%) of the lesser of the line of credit commitment amount or collateral loan value reduced by the sum of (i) the principal balance outstanding under the line of credit, (ii) the letter of credit exposure reserve, and (iii) the availability reserve as determined by Truist Bank from the most recent loan base report and otherwise in the sole discretion of Truist Bank after consideration of collections.

As of June 30, 2020, the Company was in compliance with all covenants under the Fourth Amendment. As of June 30, 2020, $18.7 million was outstanding under the Fourth Amendment line of credit.

On April 17, 2020, the Company entered into a term note ("PPP Term Note") with Truist Bank, with a principal amount of $6.23 million pursuant to the Paycheck Protection Program ("PPP") under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act"). The PPP loan is evidenced by a promissory note. The PPP Term Note bears interest at a fixed annual rate of 1.00%, with the first six months of interest deferred. Beginning in November 2020, the Company will make 18 equal monthly payments of principal and interest with the final payment due in April 2022. The PPP Term Note may be accelerated upon the occurrence of an event of default. The PPP Term Note is unsecured and guaranteed by the United States Small Business Administration. The Company may apply for forgiveness of the PPP Term Note, with the amount which may be forgiven equal to the sum of payroll costs, covered rent and mortgage obligations, and covered utility payments incurred by the Company during the eight-week period beginning upon receipt of PPP Term Note funds, calculated in accordance with the terms of the CARES Act. At this time, we are not in a position to quantify the portion of the PPP Term Note that will be forgiven.

On November 29, 2018, Prime World entered into a Purchase and Sale Contract (the "Sale Contract") and an Equipment Finance Agreement with Chailease Finance Co., Ltd. ("Chailease") in connection with certain equipment. Pursuant to the Sale Contract, Prime World sold certain equipment to Chailease for a purchase price of NT$267,340,468, or approximately $8.7 million. Simultaneously, Prime World financed the equipment back from Chailease for a term of three-years, pursuant to the Equipment Finance Agreement. Prime World is obligated to pay an initial payment of NT$67,340,468, or approximately $2.2 million, thereafter the monthly payments range from NT$5,571,229, or $0.2 million, to NT$6,139,188, or approximately $0.2 million. Based on the monthly payments made under the Equipment Finance Agreement, the annual interest rate is calculated to be 3.5%. Upon an event of default under the Equipment Finance Agreement, Prime World's payment obligation will be secured by a promissory note to Chailease in the amount of NT$210,601,605, or approximately $6.8 million, subject to certain terms and conditions. The title of the equipment will be transferred to Prime World upon expiration of the Equipment Finance Agreement. As of June 30, 2020, $3.2 million was outstanding under the Equipment Finance Agreement.

On January 21, 2019, Prime World entered into a Second Purchase and Sale Contract (the "Second Sales Contract"), Promissory Note, and a Second Equipment Finance Agreement with Chailease in connection with certain equipment. Pursuant to the Second Sales Contract, Prime World sold certain equipment to Chailease for a purchase price of NT$267,333,186, or approximately $8.7 million. Simultaneously, Prime World financed the equipment back from Chailease for a term of three-years, pursuant to the Second Equipment Finance Agreement. Prime World is obligated to pay an initial monthly payment of NT$67,333,186, or approximately $2.2 million, thereafter the monthly payments range from NT$5,570,167, or approximately $0.2 million to NT$6,082,131, or approximately $0.2 million. Based on the monthly payments made under the Second Equipment Finance Agreement, the annual interest rate is calculated to be 3.1%. Upon an event of default under the Second Equipment Finance Agreement, Prime World's payment obligation will be secured by a promissory note to Chailease at the amount of NT$209,555,736 or approximately $6.8 million, subject to certain terms and conditions. The title of the equipment will be transferred to Prime World upon expiration of the Second Equipment Finance Agreement. As of June 30, 2020, $3.6 million was outstanding under the Second Equipment Finance Agreement.

On April 11, 2019, Prime World entered into a one-year credit facility totaling NT$80 million, or approximately $2.6 million, (the "Far Eastern Credit Facility") with Far Eastern International Bank Co., Ltd. ("Far Eastern"). Prime World may draw upon the Far Eastern Credit Facility from April 11, 2019 until April 11, 2020. The term of each draw shall be up to 180 days. Under the Far Eastern Credit Facility borrowing in NT dollars will bear interest at a rate equal to Far Eastern's published one-year fixed term time deposits rate, plus 0.655%; for all foreign currency borrowing, interest shall be the TAIFX3 rate for the length of time equal to the term of the loan or the next longer tenor for which rates are quoted, plus 0.7%. As of the execution of the Far Eastern Credit Facility, Far Eastern's published one-year fixed term time deposits rate and TAIFX3 rate are 1.045 % and 2.75%, respectively. Prime World's obligations under the Far Eastern Credit Facility will be secured by a promissory note executed between Prime World and Far Eastern. As of June 30, 2020, the Far Eastern Credit Facility was fully repaid.

On July 23, 2019, Prime World entered into a one-year revolving credit facility totaling NT$100 million, or approximately $3.3 million, (the "NT$100M Credit Line") and $1 million (the "US$1M Credit Line") with Taishin International Bank in Taiwan ("Taishin"). Borrowing under the NT$100M Credit Line will be used for short-term working capital; the borrowing under the US$1M Credit Line will be strictly used for spot transactions in the foreign exchange market. The NT$100M Credit Line and US$1M Credit Line are collectively referred to as the "Taishin Credit Facility". Prime World may draw upon the Taishin Credit Facility from July 23, 2019 through July 31, 2020. The term of each draw shall be either 90 or 120 days. Borrowings under the NT$100M Credit Line will bear interest at a rate of 2.25% for 90 day draws and 2.2% for 120 day draws; borrowings under the US$1M Credit Line will bear interest equal to the Taishin's foreign exchange rate effective on the day of the applicable draw. At the end of the draw term Prime World will make payment for all principal and accrued interest. Prime World's obligations under the Taishin Credit Facility will be secured by a promissory note executed between Prime World and Taishin. The agreements for the Taishin Credit Facility contain representations and warranties, and events of default applicable to Prime World that are customary for agreements of this type. As of June 30, 2020, $3.4 million was outstanding under the Taishin Credit Facility.

On April 19, 2019, the Company's China subsidiary, Global, entered into a twelve (12) month revolving line of credit agreement, totaling 60,000,000 RMB, or approximately $8.9 million, (the "China Merchants Credit Line"), with China Merchants Bank Co., Ltd., in Ningbo, China ("China Merchants"). The China Merchants Credit Line will be used by Global for general corporate purposes, including the issuance of bank acceptance notes to Global's vendors. On April 14, 2020, Global extended the revolving line of credit agreement with China Merchants by six (6) months. Global may draw upon the China Merchants Credit Line from April 19, 2019 until October 14, 2020 (the "Credit Period"). During the Credit Period, Global may request to draw upon the China Merchants Credit Line on an as-needed basis; however, the amount of available credit under the China Merchants Credit Line and the approval of each draw may be reduced or declined by China Merchants due to changes in Chinese government regulations and/or changes in Global's financial and operational condition at the time of each requested draw. Each draw will bear interest equal to China Merchants' commercial banking interest rate effective on the day of the applicable draw. Global's obligations under the China Merchants Credit Line are unsecured. As of June 30, 2020, $1.0 million was outstanding under the China Merchants Credit Line and the outstanding balance of bank acceptance notes issued to vendors was $2.3 million.

On April 30, 2019, the Company's China subsidiary, Global, entered into a one-year credit facility totaling 9,900,000 RMB, or approximately $1.5 million, (the "SPD ¥9.9M Credit Facility"), with Shanghai Pudong Development Bank Co., Ltd., in Builun District, Ningbo City, (China) ("SPD"). Borrowing under the SPD ¥9.9M Credit Facility will be used for short-term working capital. Global may draw upon the SPD ¥9.9M Credit Facility from April 30, 2019 until May 9, 2019. Borrowing under the SPD ¥9.9M Credit Facility will mature on April 30, 2020 and will bear interest equal to SPD's published twelve (12) month prime loan rate in effect on the date of the draw, plus 0.2475%. Under the SPD ¥9.9M Credit Facility, Global will make monthly payments of accrued interest and the principal shall be repaid upon maturity. Global's obligations under the SPD ¥9.9M Credit Facility are unsecured. The SPD ¥9.9M Credit Facility has been replaced by the SPD Credit Line on May 24, 2019.

On May 7, 2019, the Company's China subsidiary, Global, entered into a one-year credit facility totaling 30,000,000 RMB, or approximately $4.5 million, (the "SPD ¥30M Credit Facility"), with SPD. Borrowing under the SPD ¥30M Credit Facility will be used to repay Global's outstanding loans with China Construction Bank Co., Ltd., in Ningbo, China ("CCB"). Borrowing under the SPD ¥30M Credit Facility will mature on May 7, 2020 and will bear interest equal to the Bank's published twelve (12) month prime loan rate in effect on the date of the draw, plus 0.2475%. As of the execution of the SPD ¥30M Credit Facility agreement, the Bank's published twelve (12) months prime loan rate is 4.32%. Under the SPD ¥30M Credit Facility, Global will make monthly payments of accrued interest; principal shall be repaid upon maturity. Global's obligations under the SPD ¥30M Credit Facility are unsecured. The SPD ¥30M Credit Facility has been replaced by the SPD Credit Line on May 24, 2019.

On May 8, 2019, the Company's China subsidiary, Global, entered into a six-month credit facility totaling $2,000,000 (the "$2M Credit Facility") with SPD. Borrowing under the $2M Credit Facility will be used to repay Global's outstanding loans with CCB and for general corporate purposes. Borrowing under the $2M Credit Facility will mature on November 7, 2019 and will bear interest equal to SPD's published six (6) month LIBOR in effect on the date of the draw, plus 1.48%. As of the execution of the $2M Credit Facility agreement, the SPD published 6 months LIBOR rate was 2.59438%. Under the $2M Credit Facility, Global will make quarterly payments of accrued interest; principal shall be repaid upon maturity. Global's obligations under the $2M Credit Facility are unsecured. The $2M Credit Facility has been replaced by the SPD Credit Line on May 24, 2019.

On May 24, 2019, the Company's China subsidiary, Global, entered into a five-year revolving credit line agreement, totaling 180,000,000 RMB (the "SPD Credit Line"), or approximately $25.4 million, and a mortgage security agreement (the "Security Agreement"), with SPD. Borrowing under the SPD Credit Line will be used for general corporate and capital investment purposes, including the issuance of bank acceptance notes to Global's vendors. The total SPD Credit Line of 180 million RMB is inclusive of all credit facilities previously entered into with SPD including: a 30 million RMB credit facility entered into on May 7, 2019; and a 9.9 million RMB credit facility entered into on April 30, 2019 and $2 million credit facility entered into on May 8, 2019. Global may draw upon the SPD Credit Line on an as-needed basis at any time during the 5-year term; however, draws under the SPD Credit Line may become due and repayable to SPD at SPD's discretion due to changes in Chinese government regulations and/or changes in Global's financial and operational condition. Each draw will bear interest equal to SPD's commercial banking interest rate effective on the day of the applicable draw. Global's obligations under the SPD Credit Line will be secured by real property owned by Global and mortgaged to the Bank under the terms of the Security Agreement. As of June 30, 2020, $9.7 million was outstanding under the SPD Credit Line and the outstanding balance of bank acceptance notes issued to vendors was $7.6 million.

On June 21, 2019, the Company's China subsidiary, Global, entered into an 18 month credit facility totaling 100,000,000 RMB (the "¥100M Credit Facility"), or approximately $14.1 million, with China Zheshang Bank Co., Ltd., in Ningbo City, China ("CZB"). Borrowing under the ¥100M Credit Facility will be used by Global for general corporate purposes. Global may draw upon the ¥100M Credit Facility from June 21, 2019 until January 4, 2021 (the "¥100M Credit Period"). During the ¥100M Credit Period, Global may request to draw upon the ¥100M Credit Facility on an as-needed basis; however, draws under the ¥100M Credit Facility may become due and repayable to CZB at CZB's discretion due to changes in Chinese government regulations and/or changes in Global's financial and operational condition. Each draw will bear interest equal to CZB's commercial banking interest rate effective on the day of the applicable draw. Global's obligations under the ¥100M Credit Facility will be secured by real property owned by Global and mortgaged to CZB under the terms of the Real Estate Security Agreement. The agreements for the ¥100M Credit Facility and the Real Estate Security Agreement also contain rights and obligations, representations and warranties, and events of default applicable to the Company that are customary for agreements of this type. As of June 30, 2020, $5.0 million was outstanding under the ¥100M Credit Facility and there was no outstanding balance of bank acceptance notes issued to vendors under this facility.

On June 21, 2019, the Company's China subsidiary, Global, entered into a three-year credit facility totaling 50,000,000 RMB (the "¥50M Credit Facility"), or approximately $7.1 million, with CZB. Borrowing under the ¥50M Credit Facility will be used by Global for general corporate purposes. Global may draw upon the ¥50M Credit Facility from June 21, 2019 until June 20, 2022 (the "¥50M Credit Period"). During the ¥50M Credit Period, Global may request to draw upon the ¥50M Credit Facility on an as-needed basis; however, draws under the ¥50M Credit Facility may become due and repayable to CZB at CZB's discretion due to changes in Chinese government regulations and/or changes in Global's financial and operational condition. Each draw will bear interest equal to CZB's commercial banking interest rate effective on the day of the applicable draw. Global's obligations under the ¥50M Credit Facility will be secured by machinery and equipment owned by Global and mortgaged to CZB under the terms of the Machinery and Equipment Security Agreement. As of June 30, 2020, $7.1 million was outstanding under the ¥50M Credit Facility.

As of June 30, 2020 and December 31, 2019, the Company had $26.9 million and $34.7 million of unused borrowing capacity, respectively.

One-month LIBOR rates were 0.2% and 1.8% at June 30, 2020 and December 31, 2019, respectively.

As of June 30, 2020 and December 31, 2019, there was $5.1 million and $6.1 million of restricted cash, investments or security deposits associated with the loan facilities, respectively.

Note 12. Convertible Senior Notes

On March 5, 2019, the Company issued $80.5 million of 5% convertible senior notes due 2024 (the “Notes”). The Notes were issued pursuant to an indenture, dated as of March 5, 2019 (the “Indenture”), between the Company and Wells Fargo Bank, National Association, as trustee, paying agent, and conversion agent (the “Trustee”). The Notes bear interest at a rate of 5.00% per year, payable in cash semi-annually in arrears on March 15 and September 15 of each year, beginning on September 15, 2019. The Notes will mature on March 15, 2024, unless earlier repurchased, redeemed or converted in accordance with their terms.

The sale of the Notes generated net proceeds of $76.4 million, after deducting the Initial Purchasers’ discounts and offering expenses payable by the Company. The Company used approximately $37.8 million of the net proceeds from the offering to fully repay the CapEx Loan and Term Loan with Truist Bank and the remainder will be used for general corporate purposes.

The following table presents the carrying value of the Notes for the periods indicated (in thousands):

	June 30, 2020	December 31, 2019
Principal	$ 80,500	$ 80,500
Unamortized debt issuance costs	(3,061)	(3,459)
Net carrying amount	$ 77,439	$ 77,041

The Notes are convertible at the option of holders of the Notes at any time until the close of business on the scheduled trading day immediately preceding the maturity date. Upon conversion, holders of the Notes will receive shares of the Company’s common stock, together, if applicable, with cash in lieu of any fractional share, at the then-applicable conversion rate. The initial conversion rate is 56.9801 shares of the Company’s common stock per $1,000 principal amount of Notes (representing an initial conversion price of approximately $17.55 per share of common stock, which represents an initial conversion premium of approximately 30% above the closing price of $13.50 per share of the Company’s common stock on February 28, 2019), subject to customary adjustments. If a make-whole fundamental change (as defined in the Indenture) occurs, and in connection with certain other conversions before March 15, 2022, the Company will in certain circumstances increase the conversion rate for a specified period of time.

Initially there are no guarantors of the Notes, but the Notes will be fully and unconditionally guaranteed, on a senior, unsecured basis by certain of the Company’s future domestic subsidiaries. The Notes are the Company’s senior, unsecured obligations and are equal in right of payment with existing and future senior, unsecured indebtedness, senior in right of payment to the Company’s existing and future indebtedness that is expressly subordinated to the Notes and effectively subordinated to the Company’s existing and future secured indebtedness, to the extent of the value of the collateral securing that indebtedness. The Note Guarantee (as defined in the Indenture) of each future guarantor, if any, will be such guarantor’s senior, unsecured obligations and are equal in right of payment with existing and future senior, unsecured indebtedness, senior in right of payment to such future guarantor’s existing and future indebtedness that is expressly subordinated to the Notes and effectively subordinated to such future guarantor’s existing and future secured indebtedness, to the extent of the value of the collateral securing that indebtedness.

Holders may require the Company to repurchase their Notes upon the occurrence of a fundamental change (as defined in the Indenture) at a cash purchase price equal to the principal amount thereof plus accrued and unpaid interest, if any.

The Company may not redeem the Notes prior to March 15, 2022. On or after March 15, 2022, the Company may redeem for cash all or part of the Notes if the last reported sale price per share of the Company’s common stock exceeds 130% of the conversion price on (i) each of at least 20 trading days, whether or not consecutive, during the 30 consecutive trading days ending on, and including, the trading day immediately before the date the Company sends the related redemption notice; and (ii) the trading day immediately before the date the Company sends such redemption notice. The redemption price is equal to 100% of the principal amount of the notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date. In addition, calling any Note for redemption will constitute a “make-whole fundamental change” with respect to that Note, in which case the conversion rate applicable to the conversion of that Note will be increased in certain circumstances if it is converted after it is called for redemption.

The Indenture contains covenants that limit the Company's ability and the ability of our subsidiaries to, among other things: (i) incur or guarantee additional indebtedness or issue disqualified stock; and (ii) create or incur liens.

Pursuant to the guidance in ASC *815-40*, *Contracts in Entity's Own Equity*, the Company evaluated whether the conversion feature of the note needed to be bifurcated from the host instrument as a freestanding financial instrument. Under ASC *815-40*, to qualify for equity classification (or non-bifurcation, if embedded) the instrument (or embedded feature) must be both (1) indexed to the issuer's own stock and (2) meet the requirements of the equity classification guidance. Based upon the Company's analysis, it was determined the conversion option is indexed to its own stock and also met all the criteria for equity classification contained in ASC *815-40-25-7* and *815-40-25-10*. Accordingly, the conversion option is not required to be bifurcated from the host instrument as a freestanding financial instrument. Since the conversion feature meets the equity scope exception from derivative accounting, the Company then evaluated whether the conversion feature needed to be separately accounted for as an equity component under ASC *470-20*, *Debt with Conversion and Other Options*. The Company determined that notes should be accounted for in their entirety as a liability.

The Company incurred approximately $4.1 million in transaction costs in connection with the issuance of the Notes. These costs were recognized as a reduction of the carrying amount of the Notes utilizing the effective interest method and are being amortized over the term of the notes.

The following table sets forth interest expense information related to the Notes (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Contractual interest expense	$ 1,006	$ 1,006	$ 2,013	$ 1,308
Amortization of debt issuance costs	205	205	414	266
Total interest cost	$ 1,211	$ 1,211	$ 2,427	$ 1,574
Effective interest rate	5.1%	5.1%	5.1%	5.1%

Note 13. Accrued Liabilities

Accrued liabilities consisted of the following for the periods indicated (in thousands):

	June 30, 2020	December 31, 2019
Accrued payroll	$ 7,737	$ 11,009
Accrued employee benefits	2,484	2,288
Accrued state and local taxes	688	1,215
Accrued interest	1215	1208
Advance payments	455	312
Accrued product warranty	785	821
Accrued commission expenses	972	420
Accrued professional fees	232	222
Accrued utility expenses	351	155
Accrued other	638	214
Total accrued liabilities	$ 15,557	$ 17,864

Note 14. Other Income and Expense

Other income and (expense) consisted of the following for the periods indicated (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Foreign exchange transaction gain (loss)	$ 113	$ 216	$ 252	$ (17)
Government subsidy income	876	74	981	162
Other non-operating gain (loss)	(6)	161	6	161
Loss on disposal of assets	(9)	—	(9)	(10)
Total other income, net	$ 974	$ 451	$ 1,230	$ 296

Note 15. Share-Based Compensation

Equity Plans

The Company's board of directors and stockholders approved the following equity plans:

- the 2006 Share Incentive Plan
- the 2013 Equity Incentive Plan ("2013 Plan")

The Company issued stock options, restricted stock awards ("RSAs") and restricted stock units ("RSUs") to employees, consultants and non-employee directors. Stock option awards generally vest over a four year period and have a maximum term of ten years. Stock options under these plans have been granted with an exercise price equal to the fair market value on the date of the grant. Nonqualified and Incentive Stock Options, RSAs and RSUs may be granted from these plans. Prior to the Company's initial public offering in September 2013, the fair market value of the Company's stock had been historically determined by the board of directors and from time to time with the assistance of third party valuation specialists.

Stock Options

Options have been granted to the Company's employees under the two incentive plans and generally become exercisable as to 25% of the shares on the first anniversary date following the date of grant and 12.5% on a semi-annual basis thereafter. All options expire ten years after the date of grant.

The following is a summary of option activity (in thousands, except per share data):

	Number of shares	Weighted Average Exercise Price	Weighted Average Share Price on Date of Exercise	Weighted Average Fair Value	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value
			(in thousands, except price data)			
Outstanding at January 1, 2020	281	$ 10.20		$ 5.32		$ 573
Exercised	(1)	—	—			—
Outstanding, June 30, 2020	280	$ 10.22		$ 5.32	3.13	341
Exercisable, June 30, 2020	280	$ 10.22			3.62	341
Vested and expected to vest	280	$ 10.22			3.13	341

As of June 30, 2020, there was no unrecognized stock option expense.

Restricted Stock Units/Awards

The following is a summary of RSU/RSA activity (in thousands, except per share data):

	Number of shares	Weighted Average Share Price on Date of Release	Weighted Average Fair Value	Aggregate Intrinsic Value
		(in thousands, except price data)		
Outstanding at January 1, 2020	770		$ 25.18	$ 9,143
Granted	1,181		11.41	13,482
Released	(275)	$ 10.55	22.04	2,901
Cancelled/Forfeited	(18)		17.1	191
Outstanding, June 30, 2020	1,658		15.98	18,023
Vested and expected to vest	1,658		15.98	18,023

As of June 30, 2020, there was $23.5 million of unrecognized compensation expense related to these RSUs and RSAs. This expense is expected to be recognized over 2.55 years.

Share-Based Compensation

Employee share-based compensation expenses recognized for the periods indicated (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Share-based compensation - by expense type				
Cost of goods sold	$ 237	$ 198	$ 483	$ 387
Research and development	704	657	1,392	1,296
Sales and marketing	295	279	586	550
General and administrative	2,066	1,885	4,079	3,728
Total share-based compensation expense	$ 3,302	$ 3,019	$ 6,540	$ 5,961

Note 16. Income Taxes

The Company's tax provision or benefit from income taxes for interim periods is determined using an estimate of its annual effective tax rate, adjusted for discrete items, if any, that are taken into account in the relevant period. The Company's quarterly tax provision, and its quarterly estimate of its annual effective tax rate, are subject to significant variation due to several factors, including variability in accurately predicting its pre-tax income and loss and the mix of jurisdictions to which they relate, tax law developments and relative changes in permanent tax benefits or expenses.

The Company's effective tax rate for the three months ended June 30, 2020 and 2019 was 258.2% and 22.0%, respectively. For the three months ended June 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, and the change of the valuation allowance on the US and state deferred tax assets ("DTA"), and the recording of a valuation allowance on Taiwan deferred tax assets. For the three months ended June 30, 2019, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, share-based compensation, and tax benefits related to research and development.

The Company's effective tax rate for the six months ended June 30, 2020 and 2019 was (16.25%) and 20.6%, respectively. For the six months ended June 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, the change of the valuation allowance on the US and state deferred tax assets, and the recording of a valuation on Taiwan deferred tax assets. For the six months ended June 30, 2019, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, share-based compensation, and tax benefits related to research and development.

Management assesses the available positive and negative evidence to estimate whether sufficient future taxable income will be generated to permit use of the existing DTAs. A significant piece of objective negative evidence evaluated was the cumulative losses incurred over the three-year period ended June 30, 2020 in Taiwan. Such objective evidence limits the ability to consider other subjective evidence, such as our projections for future growth.

On the basis of this evaluation, as of June 30, 2020, a valuation allowance of $5.2 million has been recorded in Taiwan to recognize only the portion of the DTA that is more likely than not to be realized. The amount of the DTA considered realizable, however, could be adjusted if estimates of future taxable income during the carryforward period are reduced or increased or if objective negative evidence in the form of cumulative losses is no longer present and additional weight is given to subjective evidence such as our projections for growth.

In response to the global pandemic related to COVID-19, the President signed into law the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") on March 27, 2020. The CARES Act provides numerous relief provisions for corporate taxpayers, including modification of the utilization limitations on net operating losses, favorable expansions of the deduction for business interest expense under Internal Revenue Code Section 163(j), and the ability to accelerate timing of refundable AMT credits. For the six months ended June 30 , 2020, there were no material tax impacts to our condensed consolidated financial statements as it relates to COVID-19 measures. The Company continues to monitor additional guidance issued by the U.S. Treasury Department, the Internal Revenue Services and others.

Note 17. Geographic Information

The Company operates in one reportable segment. The Company's Chief Executive Officer, who is considered to be the chief operating decision maker, manages the Company's operations as a whole and reviews financial information presented on a consolidated basis, accompanied by information about product revenue, for purposes of evaluating financial performance and allocating resources.

The following tables set forth the Company's revenue and asset information by geographic region. Revenue is classified based on the location of where the product is manufactured. Long-lived assets in the tables below comprise only property, plant, equipment and intangible assets (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Revenues:				
United States	$ 4,735	$ 1,652	$ 8,496	$ 3,650
Taiwan	40,604	22,108	64,486	46,128
China	19,883	19,651	32,707	46,352
	$ 65,222	$ 43,411	$ 105,689	$ 96,130

	As of the period ended	
	June 30, 2020	December 31, 2019
Long-lived assets:		
United States	$ 93,604	$ 94,507
Taiwan	72,420	73,816
China	95,219	97,687
	$ 261,243	$ 266,010

Note 18. Contingencies

Litigation

Overview

From time to time, the Company may be subject to legal proceedings and litigation arising in the ordinary course of business, including, but not limited to, inquiries, investigations, audits and other regulatory proceedings, such as described below. The Company records a loss provision when it believes it is both probable that a liability has been incurred and the amount can be reasonably estimated. Unless otherwise disclosed, the Company is unable to estimate the possible loss or range of loss for the legal proceeding described below.

Except for the lawsuits described below, the Company believes that there are no claims or actions pending or threatened against it, the ultimate disposition of which would have a material adverse effect on it.

Class Action and Shareholder Derivative Litigation

On August 5, 2017, a lawsuit was filed in the U.S. District Court for the Southern District of Texas against the Company and two of its officers in *Mona Abouzied v. Applied Optoelectronics, Inc., Chih-Hsiang (Thompson) Lin, and Stefan J. Murry, et al.*, Case No. 4:17-cv-02399. The complaint in this matter seeks class action status on behalf of the Company's shareholders, alleging violations of Sections 10(b) and 20(a) of the Exchange Act against the Company, its chief executive officer, and its chief financial officer, arising out of its announcement on August 3, 2017 that "we see softer than expected demand for our 40G solutions with one of our large customers that will offset the sequential growth and increased demand we expect in 100G." A second, related action was filed by Plaintiff Chad Ludwig on August 16, 2017 (Case No. 4:17-cv-02512) in the Southern District of Texas. The two cases were consolidated before Judge Vanessa D. Gilmore. On January 22, 2018, the court appointed Lawrence Rougier as Lead Plaintiff and Levi & Korsinsky LLP as Lead Counsel. Lead Plaintiff filed an amended consolidated class action complaint on March 6, 2018. The amended complaint requests unspecified damages and other relief. The Company filed a motion to dismiss on April 4, 2018, which was denied on March 28, 2019. The Company disputes the allegations, and intends to continue to vigorously defend against these claims. On May 15, 2019, Lead Plaintiff filed a motion for leave to amend the consolidated class action complaint for the purpose of adding named Plaintiffs Richard Hamilton, Kenneth X. Luthy, Roy H. Cetlin, and John Kugel (together with Lead Plaintiff Lawrence Rougier, "Plaintiffs") to the case. The court granted the motion on May 16, 2019. The substantive allegations in the Plaintiffs' operative second amended consolidated class action complaint remain unchanged. On May 28, 2019, Plaintiffs filed a motion seeking to certify the case as a class action pursuant to Federal Rule of Civil Procedure 23 and seeking appointment of Plaintiffs as class representatives and Levi & Korsinsky as class counsel. On July 12, 2019, the Company filed a response in opposition to the motion for class certification, and on August 26, 2019, Plaintiffs filed their Reply Brief. On November 13, 2019, the Magistrate Judge issued a Memorandum and Recommendation recommending that the Plaintiffs' motion for class certification be granted, to which Defendants filed written objections on November 27, 2019. On December 11, 2019, Plaintiffs filed a response in opposition to Defendants' objections, and on December 16, 2019, Defendants filed their reply brief. The court entered an order adopting the Magistrate Judge's Memorandum and Recommendation over Defendants' objections on December 20, 2019. Thereafter, on January 3, 2020, Defendants filed a petition for permission to appeal the class certification order to the Fifth Circuit Court of Appeals. Plaintiffs filed an answer in opposition to Defendants' petition on January 13, 2020, and Defendants filed a reply brief in further support of the petition for permission to appeal on January 21, 2020. On January 23, 2020, Defendants filed an unopposed motion in the Fifth Circuit requesting that the court stay further proceedings for 90 days to allow the parties to conduct settlement negotiations. The Fifth Circuit entered an order granting the motion on January 24, 2020. On April 7, 2020, by joint motion of the parties, the Fifth Circuit extended the order for another 40 days, up to and including June 2, 2020.

On June 2, 2020, the parties reached an agreement in principle to settle the matter pursuant to a mediator's recommendation. On June 4, 2020, the parties filed a Joint Motion to Stay All Deadlines and Notice of Settlement with the court, in order to allow the parties to finalize their settlement and file a motion for preliminary approval with the court no later than August 3, 2020.

On August 3, 2020, the parties filed a Stipulation of Settlement with the Court. The Stipulation of Settlement contemplates—among other things and contingent upon Court approval of the settlement and customary terms and conditions—settlement of the action, a release of all claims made in the action, and dismissal of the claims made in the action with prejudice. As consideration for entering into the settlement, Plaintiffs will receive for distribution to the members of the class they purport to represent (in accordance with the terms of the Stipulation of Settlement) a payment of $15.5 million funded by AOI's applicable directors' and officers' insurance policies. Plaintiffs intend to apply to the Court for an award of attorneys' fees to be paid out of the $15.5 million settlement fund. A hearing at which the Court will consider whether to approve the settlement has not yet been scheduled. Until it does, all non-settlement related activity in the action will be stayed. Additional information regarding the settlement can be obtained by reviewing the settlement documents publicly filed with the Court in the matter. After taking into account all currently available information, the advice of our counsel, and the extent and currently-expected availability of our existing insurance coverage, we believe that the eventual outcome of this matter will not have a material adverse effect on our overall financial condition, results of operations or cash flows, and we have not recorded any accrual with regard to this matter.

On August 7, 2018, a derivative lawsuit was filed in the United States District Court for the Southern District of Texas styled *Lei Jin, derivatively on behalf of Applied Optoelectronics, Inc. v. Chih-Hsiang ("Thompson") Lin, Stefan J. Murry, William H. Yeh, Alex Ignatiev, Richard B. Black, Min-Chu Chen, Alan Moore, and Che-Wei Lin and Applied Optoelectronics, Inc.*, No. 4:18-cv-02713 alleging breaches of fiduciary duties, unjust enrichment, and violations of Section 14(a) of the Exchange Act based on similar factual allegations as in the *Abouzied* Securities Class Action. On December 18, 2018, a second derivative complaint was filed styled *Yiu Kwong Ng v. Chih-Hsiang ("Thompson") Lin, Stefan J. Murry, William H. Yeh, Alex Ignatiev, Richard B. Black, Min-Chu Chen, Alan Moore, and Che-Wei Lin and Applied Optoelectronics, Inc.*, No. 4:18-cv-4751 alleging the same causes of actions as the *Jin* complaint and additional factual allegations regarding our announcement on September 28, 2018 that we had "identified an issue with a small percentage of 25G lasers within a specific customer environment." On January 11, 2019, the court consolidated these two derivative actions, and on January 15, 2019, the court entered an order staying the actions pending the resolution of the securities class actions. On June 24, 2020, the plaintiffs filed a notice that the stay of proceedings had been terminated, and on July 2, 2020, the parties filed a Joint Stipulation and Proposed Scheduling Order. The court entered the stipulated scheduling order on the same date, under which we must file and serve our response or responsive pleading to the complaint by August 3, 2020. On July 31, 2020, the Court extended Defendants deadline to file and serve their response or responsive pleading to the complaint to September 2, 2020. The complaint requests unspecified damages and other relief. At this stage, we are not yet able to determine the likelihood of loss, if any, arising from this matter.

Note 19. Subsequent Events

As of reporting date, the Company repaid its revolving bank line of credit with Truist Bank in the amount of $18.6 million.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our consolidated financial statements and the accompanying notes appearing elsewhere in this Quarterly Report on Form 10-Q for the period ended June 30, 2020 and the audited consolidated financial statements and notes thereto and management's discussion and analysis of financial condition and results of operations for the fiscal year ended December 31, 2019 included in our Annual Report. References to "Applied Optoelectronics," "we," "our" and "us" are to Applied Optoelectronics, Inc. and its subsidiaries unless otherwise specified or the context otherwise requires.

This Quarterly Report on Form 10-Q contains "forward-looking statements" that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. The statements contained in this Quarterly Report that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Terminology such as "believe," "may," "estimate," "continue," "anticipate," "intend," "should," "could," "would," "target," "seek," "aim," "believe," "predicts," "think," "objectives," "optimistic," "new," "goal," "strategy," "potential," "is likely," "will," "expect," "plan," "project," "permit," or by other similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements.

We have based these forward-looking statements largely on our current expectations and projections about future events and industry and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. Such forward-looking statements are subject to risks, uncertainties and other important factors that could cause actual results and the timing of events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified in "Part II —Item 1A. Risk Factors" provided below, and those discussed in other documents we file with the SEC, including our Report on Form 10-K for the year ended December 31, 2019 and subsequent Quarterly Reports on Form 10-Q. Furthermore, such forward-looking statements speak only as of the date of this Quarterly Report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of this Quarterly Report.

Overview

We are a leading, vertically integrated provider of fiber-optic networking products. We target four networking end-markets: internet data centers, CATV, telecom and FTTH. We design and manufacture a range of optical communications products at varying levels of integration, from components, subassemblies and modules to complete turn-key equipment. In designing products for our customers, we begin with the fundamental building blocks of lasers and laser components. From these foundational products, we design and manufacture a wide range of products to meet our customers' needs and specifications, and such products differ from each other by their end market, intended use and level of integration. We are primarily focused on the higher-performance segments within the internet data center, CATV, telecom and FTTH markets which increasingly demand faster connectivity and innovation. Our vertically integrated manufacturing model provides us several advantages, including rapid product development, fast response times to customer requests and control over product quality and manufacturing costs.

The four end markets we target are all driven by significant bandwidth demand fueled by the growth of network-connected devices, video traffic, cloud computing and online social networking. Within the internet data center market, we benefit from the increasing use of higher-capacity optical networking technology as a replacement for copper cables, particularly as speeds reach 10 Gbps and above, as well as the movement to open internet data center architectures and the increasing use of in-house equipment design among leading internet companies. Within the CATV market, we benefit from a number of ongoing trends including the global build-out of CATV infrastructure, the move to higher bandwidth networks among CATV service providers and the outsourcing of system design among CATV networking equipment companies. In the FTTH market, we benefit from continuing PON deployments and system upgrades among telecommunication service providers. In the telecom market, we benefit from deployment of new high-speed fiber-optic networks by telecom network operators.

Our vertically integrated manufacturing model provides us several advantages, including rapid product development, fast response times to customer requests and control over product quality and manufacturing costs. We design, manufacture and integrate our own analog and digital lasers using a proprietary Molecular Beam Epitaxy, or MBE, and Metal Organic Chemical Vapor Deposition (MOCVD) fabrication process, which we believe is unique in our industry. We manufacture the majority of the laser chips and optical components that are used in our products. The lasers we manufacture are tested extensively to enable reliable operation over time and our devices are often highly tolerant of changes in temperature and humidity, making them well-suited to the CATV and FTTH markets where networking equipment is often installed outdoors.

We have three manufacturing sites: Sugar Land, Texas, Ningbo, China and Taipei, Taiwan. Our research and development functions are generally partnered with our manufacturing locations, and we have an additional research and development facility in Duluth, Georgia. In our Sugar Land facility, we manufacture laser chips (utilizing our MBE and MOCVD processes), subassemblies and components. The subassemblies are used in the manufacture of components by our other manufacturing facilities or sold to third parties as modules. We manufacture our laser chips only within our Sugar Land facility, where our laser design team is located. In our Taiwan location, we manufacture optical components, such as our butterfly lasers, which incorporate laser chips, subassemblies and components manufactured within our Sugar Land facility. Additionally, in our Taiwan location, we manufacture transceivers for the internet data center, telecom, FTTH and other markets. In our China facility, we take advantage of lower labor costs and manufacture certain more labor intensive components and optical equipment systems, such as optical subassemblies and transceivers for the internet data center market, CATV transmitters (at the headend) and CATV outdoor equipment (at the node). Each manufacturing facility conducts testing on the components, modules or subsystems it manufactures and each facility is certified to ISO 9001:2015. Our facilities in Ningbo, China, Taipei, Taiwan, and Sugar Land, Texas are all certified to ISO 14001:2015.

Our business depends on winning competitive bid selection processes to develop components, systems and equipment for use in our customers' products. These selection processes are typically lengthy, and as a result our sales cycles will vary based on the level of customization required, market served, whether the design win is with an existing or new customer and whether our solution being designed in our customers' product is our first generation or subsequent generation product. We do not have any long-term purchase commitments (in excess of one year) with any of our customers, most of whom purchase our products on a purchase order basis. However, once one of our solutions is incorporated into a customer's design, we believe that our solution is likely to continue to be purchased for that design throughout that product's life cycle because of the time and expense associated with redesigning the product or substituting an alternative solution.

Our principal executive offices are located at 13139 Jess Pirtle Blvd., Sugar Land, TX 77478, and our telephone number is (281) 295-1800.

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Results of Operations

The following table set forth our consolidated results of operations for the periods presented and as a percentage of our revenue for those periods (in thousands, except percentages):

	Three months ended June 30, 2020		Three months ended June 30, 2019		Six months ended June 30, 2020		Six months ended June 30, 2019	
Revenue, net	$ 65,222	100.0%	$ 43,411	100.0%	$ 105,689	100.0%	$ 96,130	100.0%
Cost of goods sold	51,486	78.9%	32,873	75.7%	85,615	81.0%	73,241	76.2%
Gross profit	13,736	21.1%	10,538	24.3%	20,074	19.0%	22,889	23.8%
Operating expenses								
Research and development	10,803	16.6%	11,151	25.7%	21,361	20.2%	22,336	23.2%
Sales and marketing	3,430	5.3%	2,331	5.4%	6,366	6.0%	4,926	5.1%
General and administrative	10,611	16.3%	10,884	25.1%	21,249	20.1%	21,324	22.2%
Total operating expenses	24,844	38.1%	24,366	56.1%	48,976	46.3%	48,586	50.5%
Loss from operations	(11,108)	(17.0)%	(13,828)	(31.9)%	(28,902)	(27.3)%	(25,697)	(26.7)%
Other income (expense)								
Interest income	47	0.1%	310	0.7%	194	0.2%	382	0.4%
Interest expense	(1,489)	(2.3)%	(1,490)	(3.4)%	(2,944)	(2.8)%	(2,486)	(2.6)%
Other income (expense), net	974	1.5%	451	1.0%	1,231	1.2%	296	0.3%
Total other income (expense), net	(468)	(0.7)%	(729)	(1.7)%	(1,519)	(1.4)%	(1,808)	(1.9)%
Loss before income taxes	(11,576)	(17.7)%	(14,557)	(33.5)%	(30,421)	(28.8)%	(27,505)	(28.6)%
Income tax benefit (expense)	(7,024)	(10.8)%	3,191	7.4%	(4,976)	(4.7)%	5,665	5.9%
Net loss	$ (18,600)	(28.5)%	$ (11,366)	(26.2)%	$ (35,397)	(33.5)%	$ (21,840)	(22.7)%

Comparison of Financial Results

Revenue

We generate revenue through the sale of our products to equipment providers and network operators for the internet data center, CATV, telecom and FTTH markets. We derive a significant portion of our revenue from our top ten customers, and we anticipate that we will continue to do so for the foreseeable future. The following charts provide the revenue contribution from each of the markets we served for the three and six months ended June 30, 2020 and 2019 (in thousands, except percentages):

	Three months ended June 30,				Change	
	2020	% of Revenue	2019	% of Revenue	Amount	%
Data Center	$ 52,533	80.5%	$ 31,806	73.3%	$ 20,727	65.2%
CATV	6,141	9.4%	9,818	22.6%	(3,677)	(37.5)%
Telecom	6,170	9.5%	1,630	3.8%	4,540	278.5%
FTTH	1	0.0%	16	0.0%	(15)	(93.8)%
Other	377	0.6%	141	0.3%	236	167.4%
Total Revenue	$ 65,222	100.0%	$ 43,411	100.0%	$ 21,811	50.2%

	Six months ended June 30,				Change	
	2020	% of Revenue	2019	% of Revenue	Amount	%
Data Center	$ 85,797	81.2%	$ 70,305	73.1%	$ 15,492	22.0%
CATV	10,364	9.8%	21,780	22.7%	(11,416)	(52.4)%
Telecom	8,730	8.3%	3,368	3.5%	5,362	159.2%
FTTH	1	0.0%	110	0.1%	(109)	(99.1)%
Other	797	0.8%	567	0.6%	230	40.6%
Total Revenue	$ 105,689	100.0%	$ 96,130	100.0%	$ 9,559	9.9%

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The increase in revenue during the three and six months ended June 30, 2020 was driven primarily by increased demand for our 100 Gbps transceivers in our data center market and laser chips used in the manufacture of transceivers for 5G wireless communications in our telecom market. These increases were partially offset by a decrease in demand for CATV products in both the three and six months ended June 30, 2020. The increase in 100 Gbps demand includes increased demand from several existing customers, along with new customer additions. We believe that some of this increase is related to increased demand for cloud-based services as a result of a shift to remote-working arrangements in the US and other areas, which in turn caused our customers to increase capacity in their data centers requiring more optical transceivers, especially 100 Gbps transceivers. The increase in 5G-related sales came mainly from customers in China, as wireless operators in that country have begun to deploy advanced 5G mobile networks. The decrease in revenue in our CATV market for the period was mainly a result of reduced overall market demand for CATV outside plant products, which we attribute to reduced desire on the part of CATV multiple-system operators ("MSOs") to deploy capex to increase their network capacity.

For the three months ended June 30, 2020 and 2019, our top ten customers represented 86.9% and 90.9% of our revenue, respectively. For the six months ended June 30, 2020 and 2019, our top ten customers represented 86.0% and 90.5% of our revenue, respectively. We believe that diversifying our customer base is critical for our future success, since reliance on a small number of key customers makes our ability to forecast future results dependent upon the accuracy of the forecasts we receive from those key customers.

Cost of goods sold and gross margin

	Three months ended June 30,					
	2020		2019		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
	(in thousands, except percentages)					
Cost of goods sold	$ 51,486	78.9%	$ 32,873	75.7%	$ 18,613	56.6%
Gross margin	13,736	21.1%	10,538	24.3%		

	Six months ended June 30,					
	2020		2019		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
	(in thousands, except percentages)					
Cost of goods sold	$ 85,615	81.0%	$ 73,241	76.2%	$ 12,374	16.9%
Gross margin	20,074	19.0%	22,889	23.8%		

Cost of goods sold increased by $18.6 million, or 56.6%, for the three months ended June 30, 2020 as compared to the three months ended June 30, 2019, primarily due to a 50.2% increase in sales over the prior year. Cost of goods sold increased by $12.4 million, or 16.9%, for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019, primarily due to a 9.9% increase in sales over the prior year.

Gross margin decreased year over year primarily as a result of changes in the mix of products within our datacenter segment. In particular, we saw an increase in sales of certain lower-cost 100 Gbps transceivers, designed for shorter reaches within the datacenter, relative to sales of transceivers designed for longer reaches. This product mix resulted in an overall reduction in gross margin. Also contributing to the reduced gross margin was production inefficiencies, higher costs of certain raw materials, and increased shipping costs due the COVID-19 pandemic.

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Operating expenses

	Three months ended June 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Research and development	$ 10,803	16.6%	$ 11,151	25.7%	$ (348)	(3.1)%
Sales and marketing	3,430	5.3%	2,331	5.4%	1,099	47.1%
General and administrative	10,611	16.3%	10,884	25.1%	(273)	(2.5)%
Total operating expenses	$ 24,844	38.1%	$ 24,366	56.1%	$ 478	2.0%

	Six months ended June 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Research and development	$ 21,361	20.2%	$ 22,336	23.2%	$ (975)	(4.4)%
Sales and marketing	6,366	6.0%	4,926	5.1%	1,440	29.2%
General and administrative	21,249	20.1%	21,324	22.2%	(75)	(0.4)%
Total operating expenses	$ 48,976	46.3%	$ 48,586	50.5%	$ 390	-(0.8)%

Research and development expense

Research and development expense decreased by $0.3 million, or 3.1% for the three months ended June 30, 2020 as compared to the three months ended June 30, 2019. Research and development expense decreased by $1.0 million, or 4.4% for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019. Research and development costs consist of R&D work orders, R&D material usage and other project related costs related to 100 Gbps, 200/400 Gbps data center products, DOCSIS 3.1 capable CATV products, including remote-PHY products, and other new product development, and depreciation expense resulting from R&D equipment investments. These decreases were mainly due to decreases in costs from R&D work orders, partially offset with an increase in personnel-related costs.

Sales and marketing expense

Sales and marketing expense increased by $1.1 million, or 47.1% for the three months ended June 30, 2020 as compared to the three months ended June 30, 2019. Sales and marketing expense increased by $1.4 million, or 29.2% for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019. These increases were primarily due to increase in commission expenses, duties and freight. These increases were partially offset by a decrease in trade show expenses and travel-related costs as a result of the COVID-19 pandemic. As a result of the pandemic outbreak, the Company has modified many of its customary business practices by limiting employee travel including cancelling in-person participation in various meetings, events and conferences.

General and administrative expense

General and administrative expense decreased by $0.3 million, or 2.5% for the three months ended June 30, 2020 compared to the three months ended June 30, 2019. General and administrative expense decreased by $0.1 million, or 0.4% for the six months ended June 30, 2020 compared to the six months ended June 30, 2019. These decreases were primarily due to a decrease in legal expenses, some of which were paid by our insurance carrier rather than the Company, as legal expenses related to the first of our shareholder class action lawsuits have exceeded the retention in our insurance contract. These decreases were partially offset by an increase in personnel-related costs, share-based compensation expenses and insurance expenses.

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Other income (expense), net

	Three months ended June 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Interest income	$ 47	0.1%	$ 310	0.7%	$ (263)	(84.8)%
Interest expense	(1,489)	(2.3)%	(1,490)	(3.4)%	1	0.1%
Other income (expense), net	974	1.5%	451	-(1.0)%	523	116.0%
Total other income (expense), net	$ (468)	(0.7)%	$ (729)	(1.7)%	$ 261	(35.8)%

	Six months ended June 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Interest income	$ 194	0.2%	$ 382	0.4%	$ (188)	(49.2)%
Interest expense	(2,944)	(2.8)%	(2,486)	(2.6)%	(458)	18.4%
Other income (expense), net	1,231	1.2%	296	-(0.3)%	935	315.9%
Total other income (expense), net	$ (1,519)	(1.4)%	$ (1,808)	(1.9)%	$ 289	16.0%

Interest income decreased by $0.3 million, or 84.8% for the three months ended June 30, 2020 compared to the three months ended June 30, 2019. Interest income decreased by $0.2 million, or 49.2% for the six months ended June 30, 2020 compared to the six months ended June 30, 2019. The changes were not material and are similar to expected rates of fluctuation with the interest rates and cash balances.

Interest expense decreased slightly for the three months ended June 30, 2020 compared to the three months ended June 30, 2019. Interest expense increased $0.5 million, or 18.4% for the six months ended June 30, 2020 compared to the six months ended June 30, 2019. This increase was due to higher average debt balances during the period.

Other income (expense), net increased by $0.5 million, or 116.0%, for the three months ended June 30, 2020 as compared to the three months ended June 30, 2019. Other income (expense), net increased by $0.9 million, or 315.9%, for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019. This increase was mainly due to an increase in government subsidy income in China and Taiwan. Government subsidy income associated with our investments in new product development and as a result of our designation as a high-tech enterprise in China was $0.4 million and $0.2 million for the six months ended June 30, 2020 and 2019, respectively. In addition, government subsidy income associated with COVID-19 pandemic was $0.5 million for the six months ended June 30, 2020

Benefit for income taxes

	Three months ended June 30,			
	2020	2019	Change	
	(in thousands, except percentages)			
Benefit (provision) for income taxes	$ (7,024)	$ 3,191	(10,215)	(320.1)%

	Six months ended June 30,			
	2020	2019	Change	
	(in thousands, except percentages)			
Benefit (provision) for income taxes	$ (4,976)	$ 5,665	(10,641)	(187.8)%

Our tax provision or benefit from income taxes for interim periods is determined using an estimate of our annual effective tax rate, adjusted for discrete items, if any, that are taken into account in the relevant period. Our quarterly tax provision, and our quarterly estimate of our annual effective tax rate, are subject to significant variation due to several factors, including variability in accurately predicting our pre-tax income and loss and the mix of jurisdictions to which they relate, tax law developments and relative changes in permanent tax benefits or expenses.

Our effective tax rate for the three months ended June 30, 2020 and 2019 was 258.2% and 22.0%, respectively. For the three months ended June 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, and the change of the valuation allowance on the US and state deferred tax assets, and the recording of a valuation allowance on Taiwan deferred tax assets. For the three months ended June 30, 2019, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, share-based compensation, and tax benefits related to research and development.

Our effective tax rate for the six months ended June 30, 2020 and 2019 was (16.25%) and 20.6%, respectively. For the six months ended June 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, the change of the valuation allowance on the US and state deferred tax assets, and the recording of a valuation on Taiwan deferred tax assets. For the six months ended June 30, 2019, the effective tax rate varied from the federal statutory rate of 21% primarily due to the level and mix of earnings among tax jurisdictions, share-based compensation, and tax benefits related to research and development.

As of June 30, 2020, we had accumulated undistributed earnings generated by our foreign subsidiaries of approximately $11.7 million. Because $11.7 million of such earnings have previously been subject to the one-time transition tax on foreign earnings required by the Tax Cut of Jobs Act of 2017 (the “Tax Act”), any additional taxes due with respect to such earnings or the excess of the amount for financial reporting over the tax basis of our foreign investments would generally be limited to foreign and state taxes. We intend, however, to indefinitely reinvest these earnings and expect future U.S. cash generation to be sufficient to meet future U.S. cash needs.

Liquidity and Capital Resources

As of June 30, 2020, we had $26.9 million of unused borrowing capacity from all of our loan agreements. As of June 30, 2020, our cash, cash equivalents and restricted cash totaled $58.9 million. Cash and cash equivalents are held for working capital purposes and are invested primarily in money market or time deposit funds. We do not enter into investments for trading or speculative purposes.

On October 24, 2019, we filed a Registration Statement on Form S-3 with the Securities and Exchange Commission, which was declared effective on January 9, 2020, providing for the public offer and sale of certain securities of the Company from time to time, at our discretion, up to an aggregate amount of $250 million.

On February 28, 2020, we entered into an Equity Distribution Agreement (the “Agreement”) with Raymond James & Associates, Inc. (the “Sales Agent”) pursuant to which the Company may issue and sell shares of the Company’s common stock, par value $0.001 per share (the “Shares”) having an aggregate offering price of up to $55 million from time to time through the Sales Agent. Upon delivery of a placement notice and subject to the terms and conditions of the Agreement, sales, if any, of the Shares will be made through the Sales Agent in transactions that are deemed to be “at the market” offerings as defined in Rule 415 of the Securities Act of 1933, as amended (the “Securities Act”), including sales made through the facilities of the Nasdaq Global Market, the principal trading market for the Company’s common stock, on any other existing trading market for the Company’s common stock, to or through a market maker or as otherwise agreed by the Company and the Sales Agent. In the placement notice, the Company will designate the maximum number of Shares to be sold through the Sales Agent, the time period during which sales are requested to be made, the minimum price for the Shares to be sold, and any limitation on the number of Shares that may be sold in any one day. Subject to the terms and conditions of the Agreement, the Sales Agent will use its commercially reasonable efforts to sell Shares on the Company’s behalf up to the designated amount specified in the placement notice. The Company has no obligation to sell any Shares under the Agreement and may at any time suspend offers and sales of the Shares under the Agreement.

The Agreement provides that the Sales Agent will be entitled to compensation of up to 2% of the gross sales price of the Shares sold through the Sales Agent from time to time. The Company has also agreed to reimburse the Sales Agent for certain specified expenses in connection with the registration of Shares under state blue sky laws and any filing with, and clearance of the offering by, the Financial Industry Regulatory Authority Inc., not to exceed $10,000 in the aggregate, and any associated application fees incurred. Additionally, if the Agreement is terminated under certain circumstances, and the Company fails to sell a minimum amount of the Shares as set forth in the Agreement, then the Company has agreed to reimburse the Sales Agent for reasonable out-of-pocket expenses, including the reasonable fees and disbursements of counsel incurred by the Sales Agent, up to a maximum of $30,000 in the aggregate. The Company agreed to indemnify the Sales Agent against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the Sales Agent may be required to make because of any of those liabilities.

In March 2020, we commenced sales of common stock through an At The Market (ATM) Offering. The details of the shares of common stock sold through the ATM Offering through June 30, 2020 are as follows (in thousands, except shares and weighted average per share price):

Distribution Agent	Month	Weighted Average Per Share Price	Number of Shares Sold	Net Proceeds	Compensation to Distribution Agent
Raymond James & Associates, Inc.	March 2020	$ 9.2131	4,300	$ 39	$ 1
Raymond James & Associates, Inc.	May 2020	8.7387	923,160	7,906	161
Raymond James & Associates, Inc.	June 2020	9.5314	654,558	6,114	125

As of June 30, 2020, the total gross sales were $14.3 million and thus remaining amount of common stock we have available to sell under the ATM Offering is $40.7 million.

On March 5, 2019, the Company issued $80.5 million of 5% convertible senior notes due 2024, bearing interest at a rate of 5% per year maturing on March 15, 2024, unless earlier repurchased, redeemed or converted in accordance with their terms. The sale of the Notes generated net proceeds of $76.4 million, after expenses. Also refer to Note 12 “Convertible Senior Notes” to the consolidated financial statements for further discussion of the Notes.

The table below sets forth selected cash flow data for the periods presented (in thousands):

	Six months ended June 30,	
	2020	2019
Net cash provided by (used in) operating activities	$ (23,769)	$ 7,167
Net cash used in investing activities	(9,219)	(20,838)
Net cash provided by financing activities	25,101	39,337

Effect of exchange rates on cash and cash equivalents	(232)	317
Net increase (decrease) in cash and cash equivalents	$ (8,119)	$ 25,983

Operating activities

For the six months ended June 30, 2020, net cash used in operating activities was $23.8 million. Net cash used in operating activities consisted of our net loss of $35.4 million after exclusion of non-cash items of $27.1 million, Cash decreased due to an increase in inventory of $15.4 million and accounts receivable from our customers of $9.7 million, offset by an increase in accounts payable to our vendors of $12.7 million.

For the six months ended June 30, 2019, net cash provided by operating activities was $7.2 million. Net cash provided by operating activities consisted of our net loss of $21.8 million, after the exclusion of non-cash items of $17.7 million. Cash increased due to a decrease in inventory of $6.3 million, a decrease in other current assets of $5.6 million, a decrease in accounts receivable from our customers of $2.1 million and an increase in accounts payable to our vendors of $1.6 million. These cash increases were offset by a decrease in accrued liabilities of $4.0 million.

Investing activities

For the six months ended June 30, 2020, net cash used in investing activities was $9.2 million, mainly from the purchase of additional machinery and equipment.

For the six months ended June 30, 2019, net cash used in investing activities was $20.8 million, consisting of the purchase of additional machinery and equipment of $26.3 million, offset by a decrease in non-current assets of $5.8 million.

Financing activities

For the six months ended June 30, 2020, our financing activities provided $25.1 million in cash. This increase in cash was due to $13.9 million of net proceeds from our At The Market (ATM) Offering, $6.2 million proceeds from PPP term loan, $1.7 million net proceeds from lines of credit and $3.7 million net proceeds from acceptances payable.

For the six months ended June 30, 2019, our financing activities provided $39.3 million in cash. This increase in cash was due to $76.4 million of proceeds from the issuance of convertible senior notes offset by net loan repayments of $36.5 million.

Loans and commitments

We have lending arrangements with several financial institutions. In the US, we have a revolving line of credit and a PPP Term Note with Truist Bank. The line of credit contains financial covenants that may limit the amount and types of debt that we may incur. As of June 30, 2020, we were in compliance with these covenants.

In Taiwan, we have a revolving credit facility with Taishin International Bank and equipment finance agreements with Chailease Finance Co., Ltd. for Prime World’s Taiwan Branch. In China, we have revolving lines of credit with China Merchants Bank Co., Ltd. and Shanghai Pudong Development Bank Co., Ltd. and credit facilities with China Zheshang Bank Co., Ltd. for our China Subsidiary, Global.

As of June 30, 2020, we had $26.9 million of unused borrowing capacity.

On March 5, 2019, we had issued $80.5 million of 5% convertible senior notes due 2024. The Notes will mature on March 15, 2024, unless earlier repurchased, redeemed or converted in accordance with their terms.

See Note 11 “Notes Payable and Long-term Debt” and Note 12 “Convertible Senior Notes” of our Condensed Consolidated Financial Statements for a description of our notes payable and long-term debt and convertible senior notes.

China factory construction

On February 8, 2018, we entered into a construction contract with Zhejiang Xinyu Construction Group Co., Ltd. for the construction of a new factory and other facilities at our Ningbo, China location. Construction costs for these facilities under this contract are estimated to total approximately $27.5 million. As of June 30, 2020, approximately $21.2 million of this total cost has been incurred, with the remaining portion due as the construction progresses. Construction under this contract is expected to be completed by the end of 2020.

Future liquidity needs

We believe that our existing cash and cash equivalents, cash flows from our operating activities, and available credit will be sufficient to meet our anticipated cash needs for the next 12 months. Our future capital requirements will depend on many factors including our growth rate, the timing and extent of spending to support our research and development efforts, the expansion of our sales and marketing activities, the introduction of new and enhanced products, the construction of a new factory and other facilities at our Ningbo, China location, changes in our manufacturing capacity and the continuing market acceptance of our products. In the event we need additional liquidity, we will explore additional sources of liquidity. These additional sources of liquidity could include one, or a combination, of the following: (i) issuing equity or debt securities, (ii) incurring indebtedness secured by our assets and (iii) selling product lines, other assets and/or portions of our business. There can be no guarantee that we will be able to raise additional funds on terms acceptable to us, or at all.

Contractual Obligations and Commitments

The following summarizes our contractual obligations as of June 30, 2020 (in thousands):

	Payments due by period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Notes payable and long-term debt(1)	$ 57,776	$ 42,234	$ 15,542	$ —	$ —
Convertible senior notes(2)	94,588	4,025	8,050	82,513	—
Operating leases(3)	10,474	1,268	2,398	2,236	4,572
Financing leases(3)	121	22	44	55	—
Total commitments	$ 162,959	$ 47,549	$ 26,034	$ 84,804	$ 4,572

(1) We have several loan and security agreements in China, Taiwan and the U.S. that provide various credit facilities, including lines of credit, bank acceptance payable and term loans. The amount presented in the table represents the principal portion and estimated interest expense for the obligations.
(2) We issued convertible senior notes due 2024. The amount present in the table represents the principal portion and estimated interest expense for the obligations.
(3) We have entered into various non-cancellable lease agreements for our offices.

Inflation

We believe that the relatively low rate of inflation in the U.S. over the past few years has not had a significant impact on our net sales and revenues or on income from continuing operations or on the prices of raw materials. To the extent we expand our operations in China and Taiwan, such actions may result in inflation having a more significant impact on our operating results in the future.

Off-Balance Sheet Arrangements

For the three and six months ended June 30, 2020, we did not, and we do not currently, have any off-balance sheet arrangements.

Critical Accounting Policies and Estimates

In our Annual Report for the year ended December 31, 2019 and in the Notes to the Financial Statements herein, we identify our most critical accounting policies. In preparing the financial statements, we make assumptions, estimates and judgments that affect the amounts reported. We periodically evaluate our estimates and judgments that are most critical in nature which are related to revenue recognition, allowance for credit losses, inventory reserves, impairment of long-lived assets (excluding goodwill and other indefinite-lived intangible assets), goodwill and other indefinite-lived intangible assets, purchase price allocation of acquisitions, service and product warranties, and income taxes. Our estimates are based on historical experience and on our future expectations that we believe are reasonable. The combination of these factors forms the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results are likely to differ from our current estimates and those differences may be material.

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Item 3. Quantitative and Qualitative Disclosures about Market Risk

For quantitative and qualitative disclosures about market risk affecting the Company, see Item 7A – Quantitative and Qualitative Disclosures about Market Risk in our Annual Report for the fiscal year ended December 31, 2019. We do not believe the Company’s exposure to market risk has changed materially since December 31, 2019.

Item 4. Controls and Procedures

The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2020. Based upon that evaluation, our 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.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the three month period covered by this Quarterly Report on Form 10-Q, which were identified in connection with management’s evaluation required by the Rules 13a-15(d) and 15d-15(d) under the Exchange Act that occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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Part II. Other Information

Item 1. Legal Proceedings

From time to time, we may be subject to legal proceedings and litigation arising in the ordinary course of business, including, but not limited to, inquiries, investigations, audits and other regulatory proceedings, such as described below. We record a loss provision when we believe it is both probable that a liability has been incurred and the amount can be reasonably estimated. Unless otherwise disclosed, we are unable to estimate the possible loss or range of loss for the legal proceeding described below.

Except for the lawsuits described below, we believe that there are no claims or actions pending or threatened against us, the ultimate disposition of which would have a material adverse effect on us.

Class Action and Shareholder Derivative Litigation

On August 5, 2017, a lawsuit was filed in the U.S. District Court for the Southern District of Texas against us and two of our officers in *Mona Abouzied v. Applied Optoelectronics, Inc., Chih-Hsiang (Thompson) Lin, and Stefan J. Murry, et al.* , Case No. 4:17-cv-02399. The complaint in this matter seeks class action status on behalf of our shareholders, alleging violations of Sections 10(b) and 20(a) of the Exchange Act against us, our chief executive officer, and our chief financial officer, arising out of our announcement on August 3, 2017 that "we see softer than expected demand for our 40G solutions with one of our large customers that will offset the sequential growth and increased demand we expect in 100G." A second, related action was filed by Plaintiff Chad Ludwig on August 16, 2017 (Case No. 4:17-cv-02512) in the Southern District of Texas. The two cases were consolidated before Judge Vanessa D. Gilmore. On January 22, 2018, the court appointed Lawrence Rougier as Lead Plaintiff and Levi & Korsinsky LLP as Lead Counsel. Lead Plaintiff filed an amended consolidated class action complaint on March 6, 2018. The amended complaint requests unspecified damages and other relief. The Company filed a motion to dismiss on April 4, 2018, which was denied on March 28, 2019. On May 15, 2019, Lead Plaintiff filed a motion for leave to amend the consolidated class action complaint for the purpose of adding named Plaintiffs Richard Hamilton, Kenneth X. Luthy, Roy H. Cetlin, and John Kugel (together with Lead Plaintiff Lawrence Rougier, "Plaintiffs") to the case. The court granted the motion on May 16, 2019. The substantive allegations in the Plaintiffs' operative second amended consolidated class action complaint remain unchanged. On May 28, 2019, Plaintiffs filed a motion seeking to certify the case as a class action pursuant to Federal Rule of Civil Procedure 23 and seeking appointment of Plaintiffs as class representatives and Levi & Korsinsky as class counsel. On July 12, 2019, we filed a response in opposition to the motion for class certification, and on August 26, 2019, Plaintiffs filed their reply brief. On November 13, 2019, the Magistrate Judge issued a Memorandum and Recommendation recommending that the Plaintiffs' motion for class certification be granted, to which we filed written objections on November 27, 2019. On December 11, 2019, Plaintiffs filed a response in opposition to our objections, and on December 16, 2019, we filed our reply brief. The court entered an order adopting the Magistrate Judge's Memorandum and Recommendation over our objections on December 20, 2019. Thereafter, on January 3, 2020, we filed a petition for permission to appeal the class certification order to the Fifth Circuit Court of Appeals. Plaintiffs filed an answer in opposition to our petition on January 13, 2020, and we filed a reply brief in further support of the petition for permission to appeal on January 21, 2020. On January 23, 2020, we filed an unopposed motion in the Fifth Circuit requesting that the court stay further proceedings for 90 days to allow the parties to conduct settlement negotiations. The Fifth Circuit entered an order granting the motion on January 24, 2020. On April 7, 2020, by joint motion of the parties, the Fifth Circuit extended the order for another 40 days, up to and including June 2, 2020.

On June 2, 2020, the parties reached an agreement in principle to settle the matter pursuant to a mediator's recommendation. On June 4, 2020, the parties filed a Joint Motion to Stay All Deadlines and Notice of Settlement with the court, in order to allow the parties to finalize their settlement and file a motion for preliminary approval with the court no later than August 3, 2020.

On August 3, 2020, the parties filed a Stipulation of Settlement with the Court. The Stipulation of Settlement contemplates—among other things and contingent upon Court approval of the settlement and customary terms and conditions—settlement of the action, a release of all claims made in the action, and dismissal of the claims made in the action with prejudice. As consideration for entering into the settlement, Plaintiffs will receive for distribution to the members of the class they purport to represent (in accordance with the terms of the Stipulation of Settlement) a payment of $15.5 million funded by AOI's applicable directors' and officers' insurance policies. Plaintiffs intend to apply to the Court for an award of attorneys' fees to be paid out of the $15.5 million settlement fund. A hearing at which the Court will consider whether to approve the settlement has not yet been scheduled. Until it does, all non-settlement related activity in the action will be stayed. Additional information regarding the settlement can be obtained by reviewing the settlement documents publicly filed with the Court in the matter. After taking into account all currently available information, the advice of our counsel, and the extent and currently-expected availability of our existing insurance coverage, we believe that the eventual outcome of this matter will not have a material adverse effect on our overall financial condition, results of operations or cash flows, and we have not recorded any accrual with regard to this matter.

On August 7, 2018, a derivative lawsuit was filed in the United States District Court for the Southern District of Texas styled *Lei Jin, derivatively on behalf of Applied Optoelectronics, Inc. v. Chih-Hsiang ("Thompson") Lin, Stefan J. Murry, William H. Yeh, Alex Ignatiev, Richard B. Black, Min-Chu Chen, Alan Moore, and Che-Wei Lin and Applied Optoelectronics, Inc.*, No. 4:18-cv-02713 alleging breaches of fiduciary duties, unjust enrichment, and violations of Section 14(a) of the Exchange Act based on similar factual allegations as in the *Abouzied* Securities Class Action. On December 18, 2018, a second derivative complaint was filed styled *Yiu Kwong Ng v. Chih-Hsiang ("Thompson") Lin, Stefan J. Murry, William H. Yeh, Alex Ignatiev, Richard B. Black, Min-Chu Chen, Alan Moore, and Che-Wei Lin and Applied Optoelectronics, Inc.*, No. 4:18-cv-4751 alleging the same causes of actions as the *Jin* complaint and additional factual allegations regarding our announcement on September 28, 2018 that we had "identified an issue with a small percentage of 25G lasers within a specific customer environment." On January 11, 2019, the court consolidated these two derivative actions, and on January 15, 2019, the court entered an order staying the actions pending the resolution of the securities class actions. On June 24, 2020, the plaintiffs filed a notice that the stay of proceedings had been terminated, and on July 2, 2020, the parties filed a Joint Stipulation and Proposed Scheduling Order. The court entered the stipulated scheduling order on the same date, under which we must file and serve our response or responsive pleading to the complaint by August 3, 2020. On July 31, 2020, the Court extended Defendants deadline to file and serve their response or responsive pleading to the complaint to September 2, 2020. The complaint requests unspecified damages and other relief. At this stage, we are not yet able to determine the likelihood of loss, if any, arising from this matter.

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Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. You should carefully consider the following risk factors and all other information contained in our Quarterly Report on Form 10-Q, including our consolidated financial statements and related notes. If any of the following risks actually occur, we may be unable to conduct our business as currently planned and our financial condition and results of operations could be seriously harmed. In addition, the trading price of our common stock could decline due to the occurrence of any of these risks and you may lose all or part of your investment. Except for those risk factors denoted by an asterisk (*), the risk factors facing our Company have not changed materially from those set forth in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the SEC on February 28, 2020, which risk factors are set forth below.

Risks Inherent in Our Business

We are dependent on our key customers for a significant portion of our revenue and the loss of, or a significant reduction in orders from, any of our key customers would adversely impact our revenue and results of operations.

We generate much of our revenue from a limited number of customers. For each year ended 2019, 2018 and 2017 and the three and six months ended June 30, 2020, our top ten customers represented 88.1%, 92.9%, 94.9%, 86.9% and 86.0% of our revenue, respectively. In 2019, Microsoft represented 32.2% of our revenue, Amazon represented 24.0% of our revenue, Facebook represented 10.9% of our revenue, and Cisco represented 10.0% of our revenue. As a result, the loss of, or a significant reduction in orders from any of our key customers would materially and adversely affect our revenue and results of operations. We typically do not have long-term contracts with our customers and instead rely on recurring purchase orders. However, many of our current revenue expectations and forecasts reflect significant anticipated orders from a limited number of key customers. If our key customers do not continue to purchase our existing products or fail to purchase additional products from us, our revenue would decline and our results of operations would be adversely affected.

Adverse events affecting our key customers could also negatively affect our ability to retain their business and obtain new purchase orders, which could adversely affect our revenue and results of operations. For example, in recent years, there has been consolidation among various network equipment manufacturers and this trend is expected to continue. We are unable to predict the impact that industry consolidation would have on our existing or potential customers. We may not be able to offset any potential decline in revenue arising from the consolidation of our existing customers with revenue from new customers or additional revenue from the merged company.

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Customer demand is difficult to forecast accurately and, as a result, we may be unable to match production with customer demand.

We make planning and spending decisions, including determining the levels of business that we will seek and accept, production schedules, component procurement commitments, personnel needs and other resource requirements, based on our estimates of product demand and customer requirements. Our products are typically purchased pursuant to individual purchase orders. While our customers may provide us with their demand forecasts, they are typically not contractually committed to buy any quantity of products beyond firm purchase orders. Furthermore, many of our customers may increase, decrease, cancel or delay purchase orders already in place without significant penalty. The short-term nature of commitments by our customers and the possibility of unexpected changes in demand for their products reduce our ability to accurately estimate future customer requirements. On occasion, customers may require rapid increases in production, which can strain our resources, cause our manufacturing to be negatively impacted by materials shortages, necessitate more onerous procurement commitments and reduce our gross margin. We may not have sufficient capacity at any given time to meet the volume demands of our customers, or one or more of our suppliers may not have sufficient capacity at any given time to meet our volume demands. If any of our major customers decrease, stop or delay purchasing our products for any reason, we will likely have excess manufacturing capacity or inventory and our business and results of operations would be harmed.

If our customers do not qualify our products for use on a timely basis, our results of operations may suffer.

Prior to the sale of new products, our customers typically require us to “qualify” our products for use in their applications. At the successful completion of this qualification process, we refer to the resulting sales opportunity as a “design win.” Additionally, new customers often audit our manufacturing facilities and perform other evaluations during this qualification process. The qualification process involves product sampling and reliability testing and collaboration with our product management and engineering teams in the design and manufacturing stages. If we are unable to accurately predict the amount of time required to qualify our products with customers, or are unable to qualify our products with certain customers at all, then our ability to generate revenue could be delayed or our revenue would be lower than expected and we may not be able to recover the costs associated with the qualification process or with our product development efforts, which would have an adverse effect on our results of operations.

In addition, due to rapid technological changes in our markets, a customer may cancel or modify a design project before we have qualified our product or begun volume manufacturing of a qualified product. It is unlikely that we would be able to recover the expenses for cancelled or unutilized custom design projects. Some of these unrecoverable expenses for cancelled or unutilized custom design projects may be significant. It is difficult to predict with any certainty whether our customers will delay or terminate product qualification or the frequency with which customers will cancel or modify their projects, but any such delay, cancellation or modification would have a negative effect on our results of operations.

Our ability to successfully qualify and scale capacity for new technologies and products is important to our ability to grow our business and market presence, and we may invest a significant amount to scale our capacity to meet potential demand from customers for our new technologies and products. If we are unable to qualify and sell any of our new products in volume, on time, or at all, our results of operations may be adversely affected.

We face intense competition which could negatively impact our results of operations and market share.

The markets into which we sell our products are highly competitive. Our competitors range from large, international companies offering a wide range of products to smaller companies specializing in niche markets. Current and potential competitors may have substantially greater name recognition, financial, marketing, research and manufacturing resources than we do, and there can be no assurance that our current and future competitors will not be more successful than us in specific product lines or markets. Some of our competitors may also have better-established relationships with our current or potential customers. Some of our competitors have more resources to develop or acquire new products and technologies and create market awareness for their products and technologies. In addition, some of our competitors have the financial resources to offer competitive products at below-market pricing levels that could prevent us from competing effectively and result in a loss of sales or market share or cause us to lower prices for our products. In recent years, there has been consolidation in our industry and we expect such consolidation to continue. Consolidation involving our competitors could result in even more intense competition. Network equipment manufacturers, who are our customers, and network service providers may decide to manufacture the optical subsystems incorporated into their network systems in-house instead of outsourcing such products to companies such as us. We also encounter potential customers that, because of existing relationships with our competitors, are committed to the products offered by our competitors.

We must continually develop successful new products and enhance existing products, and if we fail to do so or if our release of new or enhanced products is delayed, our business may be harmed.

The markets for our products are characterized by frequent new product introductions, changes in customer requirements and evolving industry standards, all with an underlying pressure to reduce cost and meet stringent reliability and qualification requirements. Our future performance will depend on our successful development, introduction and market acceptance of new and enhanced products that address these challenges. If we are unable to make our new or enhanced products commercially available on a timely basis, we may lose existing and potential customers and our financial results would suffer.

In addition, due to the costs and length of research, development and manufacturing process cycles, we may not recognize revenue from new products until long after such expenditures, if at all, and our margins may decrease if our costs are higher than expected, adversely affecting our financial condition and results of operations.

Although the length of our product development cycle varies widely by product and customer, it may take 18 months or longer before we receive our first order. As a result, we may incur significant expenses long before customers accept and purchase our products.

Product development delays may result from numerous factors, including:

- modification of product specifications and customer requirements;
- unanticipated engineering complexities;
- difficulties in reallocating engineering resources and overcoming resource limitations; and
- rapidly changing technology or competitive product requirements.

The introduction of new products by us or our competitors and other changes in our customer’s demands could result in a slowdown in demand for our existing products and could result in a write-down in the value of our inventory. We have in the past experienced periodic fluctuations in demand for existing products and delays in new product development, and such fluctuations will likely occur in the future. To the extent we fail to qualify our products and obtain their approval for use, which we refer to as a design win, or experience product development delays for any reason, our competitive position would be adversely affected and our ability to grow our revenue would be impaired.

Furthermore, our ability to enter a market with new products in a timely manner can be critical to our success because it is difficult to displace an existing supplier for a particular type of product once a customer has chosen a supplier, even if a later-to-market product provides better performance or cost efficiency.

The development of new, technologically advanced products is a complex and uncertain process requiring frequent innovation, highly-skilled engineering and development personnel and significant capital, as well as the accurate anticipation of technological and market trends. We cannot assure you that we will be able to identify, develop, manufacture, market or support new or enhanced products successfully or on a timely basis. Further, we cannot assure you that our new products will gain market acceptance or that we will be able to respond effectively to product introductions by competitors, technological changes or emerging industry standards. We also may not be able to develop the underlying core technologies necessary to create new products and enhancements, license these technologies from third parties, or remain competitive in our markets.

Our revenues, growth rates and operating results are likely to fluctuate significantly as a result of factors that are outside our control, which could adversely impact our operating results.

Our revenues, growth rates and operating results are likely to fluctuate significantly in the future as a result of factors that are outside our control. We may not achieve similar revenues, growth rates or operating results in future periods. Our revenues, growth rates and operating results for any prior quarterly or annual period should not be relied upon as any indication of our future revenues, growth rates or operating results. The timing of order placement, size of orders and satisfaction of contractual customer acceptance criteria, changes in the pricing of our products due to competitive pressures as well as order or shipment delays or deferrals, with respect to our products, may cause material fluctuations in revenues. Our lengthy sales cycle, which may extend to more than one year, may cause our revenues and operating results to vary from period to period and it may be difficult to predict the timing and amount of any variation. Delays or deferrals in purchasing decisions by our customers may increase as we develop new or enhanced products for existing and new markets, including automotive and biotechnology markets. Our current and anticipated future dependence on a small number of customers increases the revenue impact of each such customer's decision to delay or defer purchases from us, or decision not to purchase products from us. Our expense levels in the future will be based, in large part, on our expectations regarding future revenue sources and, as a result, operating results for any quarterly period in which anticipated material orders fail to occur, or are delayed or deferred, could be significantly harmed.

Continued tension in U.S.-China trade relations may adversely impact our business and operating results.

The U.S. government has recently made statements and amended its U.S. trade policies, resulting in tariffs that affect imported products manufactured in China, by our Chinese subsidiary. In addition, the Chinese government has imposed reciprocal tariffs that affect products manufactured by our U.S. operations. The additional tariffs have increased our cost of goods sold, however we believe that the negative impact of these tariffs has not been material to our financial results. Although we cannot predict the impact of any future tariffs, we intend to continue to adjust our manufacturing processes, supplier lists, and manufacturing locations in order to minimize the impact of any tariffs on both the Companyand our customers.

It is unknown whether and to what extent additional new tariffs (or other new laws or regulations) will be adopted that increase the cost of importing and/or exporting products to or from the United States, or from China to the United States. Furthermore, it is unknown what effect that any such new tariffs or retaliatory actions would have on us or our industry and customers. As additional new tariffs, legislation and/or regulations are implemented, or if existing trade agreements are renegotiated or if China or other affected countries take retaliatory trade actions, such changes could have a material adverse effect on our business, financial condition, results of operations or cash flows.

We are subject to the cyclical nature of the markets in which we compete and any future downturn will likely reduce demand for our products and revenue.

In each of our target markets, including the CATV market, our sales depend on the aggregate capital expenditures of service providers as they build out and upgrade their network infrastructure. These markets are highly cyclical and characterized by constant and rapid technological change, price erosion, evolving standards and wide fluctuations in product supply and demand. In the past, these markets have experienced significant downturns, often connected with, or in anticipation of, the maturation of product cycles. These downturns have been characterized by diminished product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices. Our historical results of operations have been subject to these cyclical fluctuations, and we may experience substantial period to period fluctuations in our future results of operations. Any future downturn in any of the markets in which we compete could significantly reduce the demand for our products and therefore may result in a significant reduction in our revenue. Our revenue and results of operations may be materially and adversely affected in the future due to changes in demand from individual customers or cyclical changes in any of the markets utilizing our products. We may not be able to accurately predict these cyclical fluctuations and the impact that these fluctuations may have on our revenue and operating results.

If we encounter manufacturing problems, we may lose sales and damage our customer relationships.

We may experience delays, disruptions or quality control problems in our manufacturing operations. These and other factors may cause less than acceptable yields at our facility. Manufacturing yields depend on a number of factors, including the quality of available raw materials, the degradation or change in equipment calibration and the rate and timing of the introduction of new products. Changes in manufacturing processes required as a result of changes in product specifications, changing customer needs and the introduction of new product lines may significantly reduce our manufacturing yields, resulting in low or negative margins on those products. In addition, we use our Molecular Beam Epitaxy, or MBE, fabrication process to make our lasers, in addition to Metal Organic Chemical Vapor Deposition, or MOCVD, the technique most commonly used in optical manufacturing by communications optics vendors, and our MBE fabrication process relies on custom-manufactured equipment. If our MBE or MOCVD fabrication facility in Sugar Land, Texas were to be damaged or destroyed for any reason, our manufacturing process would be severely disrupted. Any such manufacturing problems would likely delay product shipments to our customers. For example, shipments of certain of our 100 Gbps transceiver products to one of our customers decreased during the three months ended September 30, 2018 due to customer concerns about failures of similar products shipped previously. Although we conducted extensive testing of our products to demonstrate that any potentially affected units could be nearly eliminated from future shipments, and we subsequently resumed shipments with the customer's agreement, we did incur additional testing costs and costs to enhance the ongoing monitoring of product quality which adversely affected the results of our operations. It is unclear the extent to which our reputation with this customer, or other customers, may have been affected. Manufacturing problems and any such delays would negatively affect our sales and revenue and could negatively affect our competitive position and reputation. We may also experience delays in production, typically in February, during the Lunar New Year holiday when our facilities in China and Taiwan are closed.

Given the high fixed costs associated with our vertically integrated business, a reduction in demand for our products will likely adversely impact our gross profits and our results of operations.

We have a high fixed cost base due to our vertically integrated business model, including the fact that 2,719 of our employees as of December 31, 2019 were employed in manufacturing and research and development operations. We may not be able to adjust these fixed costs quickly to adapt to rapidly changing market conditions. Our gross profit and gross margin are greatly affected by our sales volume and volatility on a quarterly basis and the corresponding absorption of fixed manufacturing overhead expenses. In addition, because we are a vertically integrated manufacturer, insufficient demand for our products may subject us to the risk of high inventory carrying costs and increased inventory obsolescence. Given our vertical integration, the rate at which we turn inventory has historically been low when compared to our cost of sales. We do not expect this to change significantly in the future and believe that we will have to maintain a relatively high level of inventory compared to our cost of sales. As a result, we continue to expect to have a significant amount of working capital invested in inventory. We may be required to write down inventory costs in the future and our high inventory costs may have an adverse effect on our gross profits and our results of operations.

Increasing costs and shifts in product mix may adversely impact our gross margins.

Our gross margins on individual products and among products fluctuate over each product's life cycle. Our overall gross margins have fluctuated from period to period as a result of shifts in product mix, the introduction of new products, decreases in average selling prices and our ability to reduce product costs, and these fluctuations are expected to continue in the future. We may not be able to accurately predict our product mix from period to period, and as a result we may not be able to forecast accurately our overall gross margins. The rate of increase in our costs and expenses may exceed the rate of increase in our revenue, either of which would materially and adversely affect our business, our results of operations and our financial condition.

Epidemic diseases, or the perception of their effects, could have a material adverse effect on our business, financial condition, results of operation, or cash flows.

Outbreaks of epidemic, pandemic, or contagious diseases, such as the recent COVID-19 or, historically, the Ebola virus, Middle East Respiratory Syndrome, Severe Acute Respiratory Syndrome, or the H1N1 virus, could divert medical resources and priorities towards the treatment of that disease. Business disruptions could include disruptions or restrictions on our ability to travel or to distribute our products, as well as temporary closures of our facilities or the facilities of our suppliers and their contract manufacturers. Any disruption of our suppliers and their contract manufacturers or our customers would likely impact our sales and operating results. In addition, a significant outbreak of epidemic, pandemic, or contagious diseases in the human population could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could affect demand for our products. Any of these events could have a material adverse effect on our business, financial condition, results of operations, or cash flows. For example, as a result of the extension of the Lunar New Year holidays due to the recent outbreak of COVID-19, certain of our product shipments from China have been delayed. Although we are monitoring the situation on a daily basis, it is currently unknown whether the outbreak will continue to disrupt our product shipments or impact manufacturing in the region or other regions where we operate over a prolonged period. If such disruption were to extend over a prolonged period, it could have a material impact on our revenues and our business. Any disruption resulting from similar events on a larger scale or over a prolonged period could cause significant delays in shipments of our products until we are able to resume such shipments, or shift our manufacturing, assembly, or test from the affected contractor to another third-party vendor, if needed. There can be no assurance that alternative capacity could be obtained on favorable terms, if at all.

**** The extent to which the COVID-19 pandemic impacts our business, results of operations and financial condition is uncertain and will depend on future developments, which cannot be predicted.***

The spread of the COVID-19 virus during the first six months of 2020 has caused an economic downturn on a global scale, as well as significant volatility in the financial markets. In March 2020 the World Health Organization declared the spread of the COVID-19 virus a pandemic. Our operations have been negatively impacted by the pandemic and are likely to continue to be impacted. The extent and duration of this impact is uncertain and will depend on factors including the extent to which our customers' businesses are impacted by the pandemic. In order to protect our employees and also minimize the risk of potential disruptions to our business that could occur should a virus outbreak occur in one of our facilities, we have established and implemented a work from home provision for our employees, where possible. We have also modified our business practices (including employee travel, and cancellation of physical participation in meetings, events and conferences), and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers and business partners. However, even with these precautions, it is not possible to eliminate the risk of a widespread outbreak among our employees and if such an outbreak were to occur, it would likely have a negative impact on our business, results of operations, and our financial condition.

The impact of the COVID-19 pandemic continues to unfold. The extent of the pandemic’s effect on our operational and financial performance will depend in large part on future developments, which cannot be predicted with confidence at this time. Future developments include the duration, scope and severity of the pandemic, the actions taken to contain or mitigate its impact, the impact on governmental programs and budgets, the development of treatments or vaccines, and the resumption of widespread economic activity. Due to the inherent uncertainty of the unprecedented and rapidly evolving situation, we are unable to predict with any confidence the likely impact of the COVID-19 pandemic on our future operations.

If the CATV market does not continue to develop as we expect, or if there is any downturn in this market, our business would be adversely affected.

Historically, we have generated much of our revenue from the CATV market. In 2019, 2018 and 2017, the CATV market represented 19.6%, 19.3%, and 15.9% of our revenue, respectively. In the CATV market, we are relying on expected increasing demand for bandwidth-intensive services and applications such as on-demand television programs, high-definition television channels, or HDTV, social media, peer-to-peer file sharing and online video creation and viewing from network service providers. Without network and bandwidth growth, the need for our products will not increase and may decline, adversely affecting our financial condition and results of operations. Although demand for broadband access is increasing, network and bandwidth growth may be limited by several factors, including an uncertain regulatory environment, high infrastructure costs to purchase and install equipment and uncertainty as to which competing content delivery solution, such as telecoms, wireless or satellite, will gain the most widespread acceptance. If the trend of outsourcing for the design and manufacture of CATV equipment does not continue, or continues at a slower pace than currently expected, our customers’ demand for our design and manufacturing services may not grow as quickly as expected. If expectations for the growth of the CATV market are not realized, our financial condition and results of operations will be adversely affected. In addition, if the CATV market is adversely impacted, whether due to competitive pressure from telecom service providers, regulatory changes, or otherwise, our business would be adversely affected. We may not be able to offset any potential decline in revenue from the CATV market with revenue from new customers in other markets.

We have limited operating history in the telecom and FTTH markets, and our business could be harmed if these markets do not develop as we expect.

For 2019 and 2018, respectively, we generated 4.4% and 4.9% of our revenue from the telecom market and 0.1% and 0.3% of our revenue from the FTTH market. In the telecom market, we generally have sold products that were originally designed for other markets (such as internet data center or FTTH) or are variations of such products. As we gain experience in this market, we have begun to develop products specifically designed for telecom customers. Given our limited experience in this market, the products that we develop may prove to be unsuitable for customer use, or we may be unable to derive profit margins from this market that are similar to what we derive from our other markets. The products that we offer in the FTTH market are relatively new and have not yet gained widespread customer acceptance. For example, our WDM-PON products designed for the FTTH market, have not, and may never, gain widespread acceptance by large internet service providers. Our business in this market is dependent on the deployment of our optical components, modules and subassemblies. We are relying on increasing demand for bandwidth-intensive services and telecoms service providers' acceptance and deployment of WDM-PON as a technology supporting one Gbps service to the home. Without network and bandwidth growth and adoption of our solutions by operators in these markets, we will not be able to sell our products in these markets in high volume or at our targeted margins, which would adversely affect our financial condition and results of operations. For example, WDM-PON technology may not be adopted by equipment and service providers in the FTTH market as rapidly as we expect or in the volumes we need to achieve acceptable margins. Network and bandwidth growth may be limited by several factors, including an uncertain regulatory environment, high infrastructure costs to purchase and install equipment and uncertainty as to which competing content delivery solution, such as CATV, will gain the most widespread acceptance. In addition, as we enter new markets or expand our product offerings in existing markets, our margins may be adversely affected due to competition in those markets and commoditization of competing products. If our expectations for the growth of these markets are not realized, our financial condition and results of operations will be adversely affected.

Our financial results may vary significantly from quarter-to-quarter due to a number of factors, which may lead to volatility in our stock price.

Our quarterly revenue and operating results have varied in the past and will likely continue to vary significantly from quarter-to-quarter. This variability may lead to volatility in our stock price as research analysts and investors respond to these quarterly fluctuations. These fluctuations are due to numerous factors, including:

- the timing, size and mix of sales of our products;
- fluctuations in demand for our products, including the increase, decrease, rescheduling or cancellation of significant customer orders;
- our ability to design, manufacture and deliver products which meet customer requirements in a timely and cost-effective manner;
- new product introductions and enhancements by us or our competitors;
- the gain or loss of key customers;
- the rate at which our present and potential customers and end users adopt our technologies;
- changes in our pricing and sales policies or the pricing and sales policies of our competitors;
- seasonality of certain of our products and manufacturing capabilities;
- quality control or yield problems in our manufacturing operations;
- supply disruption for certain raw materials and components used in our products;
- capacity constraints of our outside contract manufacturers for a portion of the manufacturing process for some of our products;

- length and variability of the sales cycles of our products;
- unanticipated increases in costs or expenses;
- the loss of key employees;
- different capital expenditure and budget cycles for our customers, affecting the timing of their spending for our products;
- political stability in the areas of the world in which we operate;
- fluctuations in foreign currency exchange rates;
- changes in accounting rules;
- changes in or limitations imposed by trade protection laws or other regulatory orders or requirements in the United States or in other countries, including tariffs, sanctions, or other costs, restrictions, or requirements which may affect our ability to import or export our products to or from various countries;
- trade-related government actions that impose barriers or restrictions that would impact our ability to sell or ship products to Huawei or other customers;
- the evolving and unpredictable nature of the markets for products incorporating our solutions; and
- general economic conditions and changes in such conditions specific to our target markets.

The foregoing factors are difficult to forecast, and these, as well as other factors, could materially adversely affect our quarterly and annual operating results. In addition, a significant amount of our operating expenses is relatively fixed in nature due to our internal manufacturing, research and development, sales and general administrative efforts. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of such revenue shortfall on our results of operations. For these reasons, you should not rely on quarter-to-quarter comparisons of our results of operations as an indicator of future performance. Moreover, our operating results may not meet our announced guidance or the expectations of research analysts or investors, in which case the price of our common stock could decrease significantly. There can be no assurance that we will be able to successfully address these risks.

Our indebtedness and liabilities could limit the cash flow available for our operations, expose us to risks that could adversely affect our business, financial condition and results of operations and impair our ability to satisfy our obligations under our indebtedness.

As of June 30, 2020, we had approximately $145.1 million of consolidated indebtedness. We may also incur additional indebtedness to meet future financing needs. Our indebtedness could have significant negative consequences for our security holders and our business, results of operations and financial condition by, among other things:

- increasing our vulnerability to adverse economic and industry conditions;
- limiting our ability to obtain additional financing;
- requiring the dedication of a substantial portion of our cash flow from operations to service our indebtedness, which will reduce the amount of cash available for other purposes;
- limiting our flexibility to plan for, or react to, changes in our business;

- diluting the interests of our existing stockholders as a result of issuing shares of our common stock upon conversion of the Notes; and
- placing us at a possible competitive disadvantage with competitors that are less leveraged than us or have better access to capital.

Our business may not generate sufficient funds, and we may otherwise be unable to maintain sufficient cash reserves, to pay amounts due under our indebtedness, including the Notes, and our cash needs may increase in the future. In addition, our existing Credit Facility with Truist Bank, contains, and any future indebtedness that we may incur may contain, financial and other restrictive covenants that limit our ability to operate our business, raise capital or make payments under our other indebtedness. If we fail to comply with these covenants or to make payments under our indebtedness when due, then we would be in default under that indebtedness, which could, in turn, result in that and our other indebtedness becoming immediately payable in full.

Our Paycheck Protection Program loan may not be forgiven and could subject us to enhanced scrutiny.

On April 17, 2020, we were granted a loan of $6.2 million under the Paycheck Protection Program ("PPP"), which is a component of the Coronavirus Aid, Relief, and Economic Security ("CARES") Act. This program was implemented hastily in response to the unprecedented economic downturn related to the coronavirus, and provides for loans of up to $10 million for eligible small businesses (defined generally as businesses with less than 500 U.S. resident employees). Due to the speed of implementation of this program, official guidance and interpretations of the requirements of the program have been limited and have changed over time. On April 29, 2020, the U.S. Department of the Treasury updated its "Frequently Asked Questions" (FAQ) document regarding the PPP program to indicate its intention to review all loans obtained under the program that exceed $2 million.

We have diligently considered all known guidance and determined that we meet all the requirements for the program; however, we cannot predict with certainty how such a review might be conducted or what new information or interpretations might emerge prior to the completion of the review. As such, we cannot be certain whether our loan may be forgiven, even if we meet the currently understood requirements for forgiveness. The review could also subject us to additional scrutiny which could adversely affect our financial condition and results of operations.

We depend on key personnel to develop and maintain our technology and manage our business in a rapidly changing market.

The continued services of our executive officers and other key engineering, sales, marketing, manufacturing and support personnel is essential to our success. For example, our ability to achieve new design wins depends upon the experience and expertise of our engineers. Any of our key employees, including our Chief Executive Officer, Chief Financial Officer, Senior Vice President and North America General Manager and Senior Vice President and Asia General Manager, may resign at any time. We do not have key person life insurance policies covering any of our employees. To implement our business plan, we also intend to hire additional employees, particularly in the areas of engineering, manufacturing and sales. Our ability to continue to attract and retain highly skilled employees is a critical factor in our success. Competition for highly skilled personnel is intense. We may not be successful in attracting, assimilating or retaining qualified personnel to satisfy our current or future needs. Our ability to develop, manufacture and sell our products, and thus our financial condition and results of operations, would be adversely affected if we are unable to retain existing personnel or hire additional qualified personnel.

We depend on a limited number of suppliers and any supply interruption could have an adverse effect on our business.

We depend on a limited number of suppliers for certain raw materials and components used in our products. Some of these suppliers could disrupt our business if they stop, decrease or delay shipments or if the materials or components they ship have quality or reliability issues. Some of the raw materials and components we use in our products are available only from a sole source or have been qualified only from a single supplier. Furthermore, other than our current suppliers, there are a limited number of entities from whom we could obtain certain materials and components. We may also face shortages if we experience increased demand for materials or components beyond what our qualified suppliers can deliver. Our inability to obtain sufficient quantities of critical materials or components could adversely affect our ability to meet demand for our products, adversely affecting our financial condition and results of operations.

We typically have not entered into long-term agreements with our suppliers and, therefore, our suppliers could stop supplying materials and components to us at any time or fail to supply adequate quantities of materials or components to us on a timely basis. It is difficult, costly, time consuming and, on short notice, sometimes impossible for us to identify and qualify new suppliers. Our customers generally restrict our ability to change the components in our products. For more critical components, any changes may require repeating the entire qualification process. Our reliance on a limited number of suppliers or a single qualified vendor may result in delivery and quality problems, and reduced control over product pricing, reliability and performance.

We depend upon outside contract manufacturers for a portion of the manufacturing process for some of our products.

Almost all of our products are manufactured internally. However, we also rely upon manufacturers in China, Taiwan and other Asia locations to provide back-end manufacturing and produce the finished portion of a few of our products. Our reliance on a contract manufacturer for these products makes us vulnerable to possible capacity constraints and reduced control over delivery schedules, manufacturing yields, manufacturing quality/controls and costs. If one or more of our contract manufacturers is unable to meet our customer demand in a timely fashion, this could have a material adverse effect on the revenue from our products. If one or more contract manufacturers for one of our products was unable or unwilling to manufacture such product in required volumes and at high quality levels or to continue our existing supply arrangement, we would have to identify, qualify and select an acceptable alternative contract manufacturer or move these manufacturing operations to our internal manufacturing facilities. An alternative contract manufacturer may not be available to us when needed or may not be in a position to satisfy our quality or production requirements on commercially reasonable terms, including price. Any significant interruption in manufacturing our products would require us to reduce our supply of products to our customers, which in turn, would reduce our revenue, harm our relationships with the customer of these products and cause us to forego potential revenue opportunities.

Our products could contain defects that may cause us to incur significant costs or result in a loss of customers.

Our products are complex and undergo quality testing as well as formal qualification by our customers. Our customers' testing procedures are limited to evaluating our products under likely and foreseeable failure scenarios and over varying amounts of time. For various reasons, such as the occurrence of performance problems that are unforeseeable in testing or that are detected only when products age or are operated under peak stress conditions, our products may fail to perform as expected long after customer acceptance. Failures could result from faulty components or design, problems in manufacturing or other unforeseen reasons. Any such failures could delay product shipments to our customers or result in a loss of customers. For example, shipments of certain of our 100 Gbps transceiver products to one of our customers decreased during the three months ended September 30, 2018 due to customer concerns about failures of similar products shipped previously. As a result, we could incur significant costs to repair or replace defective products under warranty, particularly when such failures occur in installed systems. Our products are typically embedded in, or deployed in conjunction with, our customers' products, which incorporate a variety of components, modules and subsystems and may be expected to interoperate with modules produced by third parties. As a result, not all defects are immediately detectable and when problems occur, it may be difficult to identify the source of the problem. We face this risk because our products are widely deployed in many demanding environments and applications worldwide. In addition, we may in certain circumstances honor warranty claims after the warranty has expired or for problems not covered by warranty to maintain customer relationships. Any significant product failure could result in litigation, damages, repair costs and lost future sales of the affected product and other products, divert the attention of our engineering personnel from our product development efforts and cause significant customer relations problems, all of which would harm our business. Although we carry product liability insurance, this insurance may not adequately cover our costs arising from defects in our products or otherwise.

Our loan agreements contain restrictive covenants that may adversely affect our ability to conduct our business.

We have lending arrangements with several financial institutions, including loan agreements with Truist Bank in the U.S., credit facilities with Taishin International Bank and Far Eastern International Bank Co., Ltd., equipment finance agreements with Chailease Finance Co., Ltd. in Taiwan and credit facilities with China Merchants Bank Co. Ltd., Shanghai Pudong Development Bank Co., Ltd. and China Zheshang Bank Co., Ltd. in China. Our loan agreements governing our long-term debt obligations in the U.S. and Asia contain certain financial and operating covenants that limit our management's discretion with respect to certain business matters. Among other things, these covenants require us to maintain certain financial ratios and restrict our ability to incur additional debt, create liens or other encumbrances, change the nature of our business, sell or otherwise dispose of assets and merge or consolidate with other entities. In addition, the Indenture governing the Notes contains covenants that limit our ability and the ability of our subsidiaries to, among other things: (i) incur or guarantee additional indebtedness or issue disqualified stock; and (ii) create or incur liens. These restrictions may limit our flexibility in responding to business opportunities, competitive developments and adverse economic or industry conditions. Any failure by us or our subsidiaries to comply with these agreements could harm our business, financial condition and operating results. In addition, our obligations under our loan agreements with Truist Bank are secured by our accounts receivable, inventory, intellectual property, and all business assets including real estate and equipment. Our credit facilities with Shanghai Pudong Development Bank Co., Ltd. and China Zheshang Bank Co., Ltd. are secured by real estate. A breach of any of covenants under our loan agreements, or a failure to pay interest or indebtedness when due under any of our credit facilities could result in a variety of adverse consequences, including the acceleration of our indebtedness.

We may not be able to obtain additional capital when desired, on favorable terms or at all.

We operate in a market that makes our prospects difficult to evaluate and, to remain competitive, we will be required to make continued investments in capital equipment, facilities and technological improvements. We expect that substantial capital will be required to expand our manufacturing capacity and fund working capital for anticipated growth. If we do not generate sufficient cash flow from operations or otherwise have the capital resources to meet our future capital needs, we may need additional financing to implement our business strategy, which includes:

- expansion of research and development;
- expansion of manufacturing capabilities;
- hiring of additional technical, sales and other personnel; and
- acquisitions of complementary businesses.

If we raise additional funds through the issuance of our common stock or convertible securities, the ownership interests of our stockholders could be significantly diluted. These newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. Additional financing may not, however, be available on terms favorable to us, or at all, if and when needed, and our ability to fund our operations, take advantage of unanticipated opportunities, develop or enhance our infrastructure or respond to competitive pressures could be significantly limited. If we cannot raise required capital when needed, including under our Registration Statement filed with the SEC in October 2019, we may be unable to meet the demands of existing and prospective customers, adversely affecting our sales and market opportunities and consequently our business, financial condition and results of operations.

Data breaches and cyberattacks could compromise our operations, our customers' operations, or the operations of our contract manufacturers upon whom we rely, and cause significant damage to our business and reputation.

Cyberattacks have become more prevalent and much harder to detect and defend against. Companies, including companies in our industry, have been increasingly subject to a wide variety of security incidents, cyberattacks and other attempts to gain unauthorized access to their systems or to deny access and disrupt their systems and operations. These threats can come from a variety of sources, ranging in sophistication from an individual hacker to a state-sponsored attack. Cyber threats may be generic, or they may be custom-crafted against our information systems.

In the ordinary course of our business, we and our data center customers maintain sensitive data on our respective networks, including intellectual property, employee personal information and proprietary or confidential business information relating to our business and that of our customers and business partners. The secure maintenance of this information is critical to our business and reputation. Despite our implementation of network security measures, our network and storage applications have been subject to computer viruses, ransomware and other forms of cyber terrorism.

Also, despite our implementation of security measures, we are not able to guarantee that we can prevent unauthorized access by hackers or breaches due to operator error, malfeasance or other system disruptions. Our customers' network and storage applications may be subject to similar disruptions. It is often difficult to anticipate or immediately detect such incidents and the damage caused by such incidents. Data breaches and any unauthorized access or disclosure of our information, employee information or intellectual property could compromise our business, trade secrets and other sensitive business information, any of which could result in legal action against us, exposure of our intellectual property to our competitors, damages, fines and other adverse effects. A data security breach could also lead to public exposure of personal information of our employees, customers and others. Any such theft, loss or misuse of personal data collected, used, stored or transferred by us to run our business could result in significantly increased security costs or costs related to defending legal claims. Cyberattacks, such as computer viruses or other forms of cyber terrorism, have disrupted access to some of our network or storage applications. In past incidents we have been able to recover quickly without material financial impact, however such disruptions in the future may result in delays or cancellations of customer orders or delays or additional costs to produce and ship our products. Data security breaches involving our data center customers could affect their financial condition and ability to continue to purchase our products. Further, cyberattacks may cause us to incur significant remediation costs, result in product development delays, disrupt key business operations and divert attention of management and key information technology resources. These incidents could also subject us to liability, expose us to significant expense and cause significant harm to our reputation and business.

****Changes in U.S. and international trade policies, particularly with regard to China, may materially and adversely impact our business and operating results.***

The U.S. government continues to make public statements in conjunction with certain actions that have led and may lead to further changes to U.S. and international trade policies, including additional tariffs affecting certain products manufactured in China. Since the beginning of 2018, there has been increasing rhetoric, in some cases coupled with legislative or executive action, from several U.S. and foreign leaders regarding the possibility of instituting tariffs on the foreign imports of certain materials. Five rounds of U.S. tariffs on imports from China (respectively the "U.S. Tariffs on China Imports") went into effect on July 2018, August 2018, September 2018, September 2019, and February 2020. A limited number of our products that are of Chinese origin are currently subject to the U.S. Tariffs on China Imports.

It is unknown whether and to what extent new tariffs (or other new laws or regulations) will be adopted, or the effect that any such actions would have on us or our industry. A significant portion of our manufacturing operations are based in Ningbo, China; therefore, there could be material adverse effects on our business, financial condition, and/or cash flow if any new tariffs, legislation and/or regulations are implemented, or if existing trade agreements are renegotiated or if China or other affected countries take further retaliatory trade actions.

Furthermore, the implementation of trade tariffs both globally and between the U.S. and China specifically carries the risk of negatively impacting China's overall economic condition, which could have negative repercussions on our business. Bilateral tariffs could cause a decrease in the sales of our products to customers located in China or other customers selling to Chinese end users, further impacting our business.

Significant changes to existing international trade agreements could also lead to sourcing or logistics disruption resulting from import delays or the imposition of increased tariffs on our sourcing partners. For example, the Chinese government could, among other things, require the use of local suppliers, compel companies that do business in China to partner with local companies, and otherwise provide government incentives or subsidies to government-backed local customers to buy from local suppliers. Changes in, and responses to, U.S. trade policy could reduce the competitiveness of our products and thus cause our sales and revenues to drop, which could materially and adversely impact our business and results of operations.

We face a variety of risks associated with our international sales and operations.

We currently derive, and expect to continue to derive, a significant portion of our revenue from sales to international customers. In 2019, 2018 and 2017, 18.8%, 23.1% and 22.7% of our revenue was derived from sales that occurred outside of North America, respectively. In addition, a significant portion of our manufacturing operations is based in Ningbo, China and Taipei, Taiwan.

Trade-related government actions, by China or other countries that impose barriers or restrictions that would impact our ability to sell or ship products to customers or potential customers may have a negative impact on our financial condition and results of operations. We cannot predict the actions government entities may take in this context and may be unable to quickly offset or effectively react to government actions that restrict our ability to sell to certain customers or in certain jurisdictions. Government actions that affect our customers' ability to sell products or access critical elements of their supply chains may result in a decreased demand for their products, which may consequently reduce their demand for our products.

Our international revenue and operations are subject to a number of material risks, including:

- difficulties in staffing, managing and supporting operations in more than one country;
- difficulties in enforcing agreements and collecting receivables through foreign legal systems;
- fewer legal protections for intellectual property in foreign jurisdictions;
- foreign and U.S. taxation issues and international trade barriers, including the adoption or expansion of governmental trade tariffs;

- difficulties in obtaining any necessary governmental authorizations for the export of our products to certain foreign jurisdictions;
- fluctuations in foreign economies;
- fluctuations in the value of foreign currencies and interest rates;
- trade and travel restrictions;
- domestic and international economic or political changes, hostilities and other disruptions in regions where we currently operate or may operate in the future;
- difficulties and increased expenses in complying with a variety of U.S. and foreign laws, regulations and trade standards, including the Foreign Corrupt Practices Act; and
- different and changing legal and regulatory requirements in the jurisdictions in which we currently operate or may operate in the future.

Negative developments in any of these factors in China or Taiwan or other countries could result in a reduction in demand for our products, the cancellation or delay of orders already placed, difficulties in producing and delivering our products, threats to our intellectual property, difficulty in collecting receivables, and a higher cost of doing business. Although we maintain certain compliance programs throughout the Company, violations of U.S. and foreign laws and regulations may result in criminal or civil sanctions, including material monetary fines, penalties and other costs against us or our employees, and may have a material adverse effect on our business.

Our business operations conducted in China and Taiwan are important to our success. A substantial portion of our property, plant and equipment is located in China and Taiwan. We expect to make further investments in China and Taiwan in the future. Therefore, our business, financial condition, results of operations and prospects are subject to economic, political, legal, and social events and developments in China and Taiwan. Factors affecting military, political or economic conditions in China and Taiwan could have a material adverse effect on our financial condition and results of operations, as well as the market price and the liquidity of our common shares.

In some instances, we rely on third parties to assist in selling our products, and the failure of those parties to perform as expected could reduce our future revenue.

Although we primarily sell our products through direct sales, we also sell our products to some of our customers through third party sales representatives and distributors. Many of such third parties also market and sell products from our competitors. Our third party sales representatives and distributors may terminate their relationships with us at any time, or with short notice. Our future performance will also depend, in part, on our ability to attract additional third party sales representatives and distributors that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. If our current third party sales representatives and distributors fail to perform as expected, our revenue and results of operations could be harmed.

Changes in our effective tax rate may adversely affect our results of operation and our business.

We are subject to income taxes in the U.S. and other foreign jurisdictions, including China and Taiwan. In addition, we are subject to various state taxes in states where we have nexus. We base our tax position on the anticipated nature and conduct of our business and our understanding of the tax laws of the countries and states in which we have assets or conduct activities. Our tax position may be reviewed or challenged by tax authorities. Moreover, the tax laws currently in effect may change, and such changes may have retroactive effect, such as the U.S. tax reform legislation commonly referred to as the U.S. Tax Cuts and Jobs Act of 2017 (the “Tax Act”). We have inter-company arrangements in place providing for administrative and financing services and transfer pricing, which involve a significant degree of judgment and are often subject to close review by tax authorities. The tax authorities may challenge our positions related to these agreements. If the tax authorities successfully challenge our positions, our effective tax rate may increase, adversely affecting our results of operation and our business.

The Tax Act significantly changed how the U.S. taxes corporations. The Tax Act requires complex computations to be performed that were not previously required in U.S. tax law, significant judgments to be made in interpretation of the provisions of the Tax Act and significant estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies could interpret or issue guidance on how provisions of the Tax Act will be applied or otherwise administered that is different from our interpretation. As we interpret any additional guidance, we may make adjustments to amounts that we have recorded that may materially impact our provision for income taxes in the period in which the adjustments are made.

Failure to manage our growth effectively may adversely affect our financial condition and results of operations.

Successful implementation of our business plan in our target markets requires effective planning and management. Production volumes for some of our products are increasing and we have announced plans to increase our production capacity in response to demand for certain of our current and future products, including adding personnel in some of our locations as well as expanding our physical manufacturing facilities. We currently operate facilities in Sugar Land, Texas, Ningbo, China, Taipei, Taiwan, and Duluth, Georgia. We currently manufacture our lasers using a proprietary process and customized equipment located only in our Sugar Land, Texas facility, and it will be costly to duplicate that facility, to scale our laser manufacturing capacity or to mitigate the risks associated with operating a single facility. The challenges of managing our geographically dispersed operations have increased and will continue to increase the demand on our management systems and resources. Moreover, we are continuing to improve our financial and managerial controls, reporting systems and procedures. Any failure to manage our expansion and the resulting demands on our management systems and resources effectively may adversely affect our financial condition and results of operations.

Future acquisitions may adversely affect our financial condition and results of operations.

As part of our business strategy, we may pursue acquisitions of companies that we believe could enhance or complement our current product portfolio, augment our technology roadmap or diversify our revenue base. Acquisitions involve numerous risks, any of which could harm our business, including:

- difficulties integrating the acquired business;
- unanticipated costs, capital expenditures or liabilities or changes related to research in progress and product development;
- diversion of financial and management resources from our existing business;
- difficulties integrating the business relationships with suppliers and customers of the acquired business with our existing business relationships;
- risks associated with entering markets in which we have little or no prior experience; and
- potential loss of key employees, particularly those of the acquired organizations.

Acquisitions may also result in the recording of goodwill and other intangible assets subject to potential impairment in the future, adversely affecting our operating results. We may not achieve the anticipated benefits of an acquisition if we fail to evaluate it properly, and we may incur costs in excess of what we anticipate. A failure to evaluate and execute an acquisition appropriately or otherwise adequately address these risks may adversely affect our financial condition and results of operations.

We may be subject to disruptions or failures in information technology systems and network infrastructures that could have a material adverse effect on our business and financial condition.

We rely on the efficient and uninterrupted operation of complex information technology systems and network infrastructures to operate our business. A disruption, infiltration or failure of our information technology systems as a result of software or hardware malfunctions, system implementations or upgrades, computer viruses, third-party security breaches, employee error, theft or misuse, malfeasance, power disruptions, natural disasters or accidents could cause a breach of data security, loss of intellectual property and critical data and the release and misappropriation of sensitive competitive information and partner, customer, and employee personal data. We have experienced ransomware, computer viruses and other forms of cyber terrorism. In past incidents we have been able to recover quickly without material financial impact; however, any of these events could harm our competitive position, result in a loss of customer confidence, cause us to incur significant costs to remedy any damages and ultimately materially adversely affect our business and financial condition.

Our future results of operations may be subject to volatility as a result of exposure to fluctuations in currency exchange rates.

We have significant foreign currency exposure and are affected by fluctuations among the U.S. dollar, the Chinese Renminbi, or RMB, and the New Taiwan dollar, or NT dollar, because a substantial portion of our business is conducted in China and Taiwan. Our sales, raw materials, components and capital expenditures are denominated in U.S. dollars, RMB and NT dollars in varying amounts.

Foreign currency fluctuations may adversely affect our revenue and our costs and expenses, and hence our results of operations. The value of the NT dollar or the RMB against the U.S. dollar and other currencies may fluctuate and be affected by, among other things, changes in political and economic conditions. The RMB currency is no longer being pegged solely to the value of the U.S. dollar. In the long term, the RMB may appreciate or depreciate significantly in value against the U.S. dollar, depending upon the fluctuation of the basket of currencies against which it is currently valued, or it may be permitted to enter into a full float, which may also result in a significant appreciation or depreciation of the RMB against the U.S. dollar. In addition, our currency exchange variations may be magnified by Chinese exchange control regulations that restrict our ability to convert RMB into foreign currency.

Our sales in Europe are denominated in U.S. dollars and fluctuations in the Euro or our customers' other local currencies relative to the U.S. dollar may impact our customers and affect our financial performance. If our customers' local currencies weaken against the U.S. dollar, we may need to lower our prices to remain competitive in our international markets which could have a material adverse effect on our margins. If our customers' local currencies strengthen against the U.S. dollar and if the local sales prices cannot be raised due to competitive pressures, we will experience a deterioration of our margins.

To date, we have not entered into any hedging transactions in an effort to reduce our exposure to foreign currency exchange risk. While we may decide to enter into hedging transactions in the future, the availability and effectiveness of these hedging transactions may be limited and we may not be able to successfully hedge our exposure.

Natural disasters or other catastrophic events could harm our operations.

Our operations in the U.S., China and Taiwan could be subject to significant risk of natural disasters, including earthquakes, hurricanes, typhoons, flooding and tornadoes, as well as other catastrophic events, such as epidemics, terrorist attacks or wars. For example, our corporate headquarters and wafer fabrication facility in Sugar Land, Texas is located near the Gulf of Mexico, an area that is susceptible to hurricanes. We use a proprietary MBE laser manufacturing process that requires customized equipment, and this process is currently conducted and located solely at our wafer fabrication facility in Sugar Land, Texas, such that a natural disaster, terrorist attack or other catastrophic event that affects that facility would materially harm our operations. In addition, our manufacturing facility in Taipei, Taiwan, is susceptible to typhoons and earthquakes, and our manufacturing facility in Ningbo, China, has from time to time, suffered electrical outages. Any disruption in our manufacturing facilities arising from these and other natural disasters or other catastrophic events could cause significant delays in the production or shipment of our products until we are able to shift production to different facilities or arrange for third parties to manufacture our products. We may not be able to obtain alternate capacity on favorable terms or at all. Our property insurance coverage with respect to natural disaster is limited and is subject to deductible and coverage limits. Such coverage may not be adequate or continue to be available at commercially reasonable rates and terms. The occurrence of any of these circumstances may adversely affect our financial condition and results of operation.

Our business could be negatively impacted as a result of shareholder activism.

In recent years, shareholder activists have become involved in numerous public companies. Shareholder activists frequently propose to involve themselves in the governance, strategic direction, and operations of the Company. We may in the future become subject to such shareholder activity and demands. Such demands may disrupt our business and divert the attention of our management and employees, and any perceived uncertainties as to our future direction resulting from such a situation could result in the loss of potential business opportunities, be exploited by our competitors, cause concern to our current or potential customers, and make it more difficult to attract and retain qualified personnel and business partners, all of which could adversely affect our business. In addition, actions of activist shareholders may cause significant fluctuations in our stock price based on temporary or speculative market perceptions or other factors that do not necessarily reflect the underlying fundamentals and prospects of our business.

The unfavorable outcome of any pending or future litigation or administrative action and expenses incurred in connection with litigation could result in financial losses or harm to our business.

We are, and in the future may be, subject to legal actions in the ordinary course of our operations, both domestically and internationally. There can be no assurances as to the favorable outcome of any litigation. In addition, it can be costly to defend litigation and these costs could negatively impact our financial results. As disclosed in “Part II - Item 1. Legal Proceedings,” on August 5, 2017, we and certain of our officers are currently subject to class action litigation related to allegations that we made materially false and misleading statements or failed to disclose material facts. Such litigation includes requests for damages and other relief. As further described in that section, subsequent derivative actions and securities class actions have since been filed. This litigation and any other such litigation could result in substantial costs and divert our management’s attention from other business concerns, which could seriously harm our business.

If we fail to protect, or incur significant costs in defending, our intellectual property and other proprietary rights, our business and results of operations could be materially harmed.

Our success depends on our ability to protect our intellectual property and other proprietary rights. We rely on a combination of patent, trademark, copyright, trade secret and unfair competition laws, as well as license agreements and other contractual provisions, to establish and protect our intellectual property and other proprietary rights. We have applied for patents in the U.S. and in other foreign countries, some of which have been issued. In addition, we have registered certain trademarks in the U.S. We cannot guarantee that our pending applications will be approved by the applicable governmental authorities. Moreover, our existing and future patents and trademarks may not be sufficiently broad to protect our proprietary rights or may be held invalid or unenforceable in court. A failure to obtain patents or trademark registrations or a successful challenge to our patents and trademark registrations in the U.S. or other foreign countries may limit our ability to protect the intellectual property rights that these patent and trademark registrations intended to cover.

Policing unauthorized use of our technology is difficult and we cannot be certain that the steps we have taken will prevent the misappropriation, unauthorized use or other infringement of our intellectual property rights. Further, we may not be able to effectively protect our intellectual property rights from misappropriation or other infringement in foreign countries where we have not applied for patent protections and where effective patent, trademark, trade secret and other intellectual property laws may be unavailable, or may not protect our proprietary rights as fully as U.S. law. We may seek to secure comparable intellectual property protections in other countries. However, the level of protection afforded by patent and other laws in other countries may not be comparable to that afforded in the U.S.

We also attempt to protect our intellectual property, including our trade secrets and know-how, through the use of trade secret and other intellectual property laws, and contractual provisions. We enter into confidentiality and invention assignment agreements with our employees and independent consultants. We also use non-disclosure agreements with other third parties who may have access to our proprietary technologies and information. Such measures, however, provide only limited protection, and there can be no assurance that our confidentiality and non-disclosure agreements will not be breached, especially after our employees end their employment, and that our trade secrets will not otherwise become known by competitors or that we will have adequate remedies in the event of unauthorized use or disclosure of proprietary information. Unauthorized third parties may try to copy or reverse engineer our products or portions of our products, otherwise obtain and use our intellectual property, or may independently develop similar or equivalent trade secrets or know-how. If we fail to protect our intellectual property and other proprietary rights, or if such intellectual property and proprietary rights are infringed, misappropriated or duplicated, our business, results of operations or financial condition could be materially harmed.

In the future, we may need to take legal actions to prevent third parties from infringing upon or misappropriating our intellectual property or from otherwise gaining access to our technology. Protecting and enforcing our intellectual property rights and determining their validity and scope could result in significant litigation costs and require significant time and attention from our technical and management personnel, which could significantly harm our business. We may not prevail in such proceedings, and an adverse outcome may adversely impact our competitive advantage or otherwise harm our financial condition and our business.

We may be involved in intellectual property disputes in the future, which could divert management's attention, cause us to incur significant costs and prevent us from selling or using the challenged technology.

Participants in the markets in which we sell our products have experienced frequent litigation regarding patent and other intellectual property rights. While we have a policy in place that is designed to reduce the risk of infringement of intellectual property rights of others and we have conducted a limited review of other companies' relevant patents, there can be no assurance that third parties will not assert infringement claims against us. We cannot be certain that our products would not be found infringing on the intellectual property rights of others. Regardless of their merit, responding to such claims can be time consuming, divert management's attention and resources and may cause us to incur significant expenses. Intellectual property claims against us could force us to do one or more of the following:

- obtain from a third-party claiming infringement a license to the relevant technology, which may not be available on reasonable terms, or at all;
- stop manufacturing, selling, incorporating or using our products that use the challenged intellectual property;
- pay substantial monetary damages; or
- expend significant resources to redesign the products that use the technology and to develop non-infringing technology.

Any of these actions could result in a substantial reduction in our revenue and could result in losses over an extended period of time.

In any potential intellectual property dispute, our customers could also become the target of litigation. Because we often indemnify our customers for intellectual property claims made against them with respect to our products, any claims against our customers could trigger indemnification claims against us. These obligations could result in substantial expenses such as legal expenses, damages for past infringement or royalties for future use. Any indemnity claim could also adversely affect our relationships with our customers and result in substantial costs to us.

If we fail to obtain the right to use the intellectual property rights of others that are necessary to operate our business, and to protect their intellectual property, our business and results of operations will be adversely affected.

From time to time we may choose to or be required to license technology or intellectual property from third parties in connection with the development of our products. We cannot assure you that third party licenses will be available to us on commercially reasonable terms, if at all. Generally, a license, if granted, would include payments of up-front fees, ongoing royalties or both. These payments or other terms could have a significant adverse impact on our results of operations. Our inability to obtain a necessary third-party license required for our product offerings or to develop new products and product enhancements could require us to substitute technology of lower quality or performance standards, or of greater cost, any of which could adversely affect our business. If we are not able to obtain licenses from third parties, if necessary, then we may also be subject to litigation to defend against infringement claims from these third parties. Our competitors may be able to obtain licenses or cross-license their technology on better terms than we can, which could put us at a competitive disadvantage.

If we fail to maintain an effective system of disclosure controls and internal control over financial reporting, the accuracy and timing of our financial reporting may be adversely affected.

Preparing our consolidated financial statements involves a number of complex manual and automated processes, which are dependent upon individual data input or review and require significant management judgment. One or more of these elements may result in errors that may not be detected and could result in a material misstatement of our consolidated financial statements. The Sarbanes-Oxley Act requires, among other things, that as a publicly-traded company we disclose whether our internal control over financial reporting and disclosure controls and procedures are effective.

We have implemented a system of disclosure and internal controls that we believe provide reasonable assurance that we will be able to timely report our financial results and avoid accounting errors or material weaknesses in future periods. However, our internal controls cannot guarantee that no accounting errors exist or that all accounting errors, no matter how immaterial, will be detected because a control system, no matter how well designed and operated, can provide only reasonable, but not absolute assurance that the control system's objectives will be met. If we are unable to implement and maintain an effective system of disclosure controls and internal control over financial reporting, our ability to accurately and timely report our financial results could be adversely impacted. This could result in late filings of our annual and quarterly reports under the Exchange Act, restatements of our consolidated financial statements, a decline in our stock price, suspension or delisting of our common stock by NASDAQ, or other material adverse effects on our business, reputation, results of operations or financial condition.

Our ability to use our net operating losses and certain other tax attributes may be limited.

As of December 31, 2019, we had U.S. accumulated net operating losses, or NOLs, of approximately $75.9 million, federal and state research and development credits ("R&D credits") of $8.3 million, interest expense of $0.8 million and foreign tax credits of $4.6 million for U.S. federal income tax purposes. Our ability to use our net operating losses, or NOLs, to offset future taxable income may be subject to certain limitations which could subject our business to higher tax liability. We may be limited in the portion of NOL carryforwards that we can use in the future to offset taxable income for U.S. federal and state income tax purposes, and federal tax credits to offset federal tax liabilities. Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, limit the use of NOLs and tax credits after a cumulative change in corporate ownership of more than 50% occurs within a three-year period. The statutes place a formula limit on how much NOLs and tax credits a corporation can use in a tax year after a change in ownership. Avoiding an ownership change is generally beyond our control. Although the ownership changes we experienced in the past and in the year ended December 31, 2019 had not prevented us from using all NOLs and tax credits accumulated before such ownership changes, we could experience another ownership change that might limit our use of NOLs and tax credits in the future. Under the Tax Cuts and Jobs Act of 2017, or Tax Act, NOLs from tax years that began after December 31, 2017 do not expire, but NOLs from tax years that began before January 1, 2018 expire after 20 years. Further, under the Tax Act, although the treatment of tax losses generated in taxable years ending before December 31, 2017 has generally not changed, tax losses generated in taxable years beginning after December 31, 2017 may offset no more than 80% of taxable income annually. Accordingly, if we generate NOLs after the tax year ended December 31, 2017, we might have to pay more federal income taxes in a subsequent year as a result of the 80% taxable income limitation than we would have had to pay under the law in effect before the Tax Act.

Our manufacturing operations are subject to environmental regulation that could limit our growth or impose substantial costs, adversely affecting our financial condition and results of operations.

Our properties, operations and products are subject to the environmental laws and regulations of the jurisdictions in which we operate and sell products. These laws and regulations govern, among other things, air emissions, wastewater discharges, the management and disposal of hazardous materials and solid wastes, the contamination of soil and groundwater, employee health and safety and the content, performance, packaging and disposal of products. Our failure to comply with current and future environmental laws and regulations, or the identification of contamination for which we are liable, could subject us to substantial costs, including fines, clean-up costs, natural resource damages, third-party property damages or personal injury claims, administrative, civil or criminal penalties and could result in injunctive relief requiring us to make significant investments to upgrade our facilities, redesign or change our manufacturing processes, redesign our products, or curtail our operations. Liability under environmental, health and safety laws can be joint and several and without regard to fault or negligence. For example, pursuant to environmental laws and regulations, including but not limited to the Comprehensive Environmental Response Compensation and Liability Act, or CERCLA, we may be liable for the full amount of any remediation-related costs at properties we currently own or formerly owned, such as our currently owned Sugar Land, Texas facility, or at properties at which we previously operated, as well as at properties we will own or operate in the future, and properties to which we have sent hazardous substances, whether or not we caused the contamination. Identification of presently unidentified environmental conditions, more vigorous enforcement by a governmental authority, enactment of more stringent legal requirements or other unanticipated events could give rise to adverse publicity, restrict our operations, affect the design or marketability of our products or otherwise cause us to incur material environmental costs, adversely affecting our financial condition and results of operations.

We are exposed to increased expenses and business risk as a result of Restriction on Hazardous Substances, or RoHS directives.

Following the lead of the European Union, or EU, various governmental agencies have either already put into place or are planning to introduce regulations that regulate the permissible levels of hazardous substances in products sold in various regions of the world. For example, the RoHS directive for EU took effect on July 1, 2006. The labeling provisions of similar legislation in China went into effect on March 1, 2007. Consequently, many suppliers of products sold into the EU have required their suppliers to be compliant with the new directive. Many of our customers have adopted this approach and have required our full compliance. Though we have devoted a significant amount of resources and effort in planning and executing our RoHS program, it is possible that some of our products might be incompatible with such regulations. In such events, we could experience the following consequences: loss of revenue, damaged reputation, diversion of resources, monetary penalties, and legal action.

Failure to comply with the U.S. Foreign Corrupt Practices Act could subject us to penalties and other adverse consequences.

We are subject to the U.S. Foreign Corrupt Practices Act which generally prohibits U.S. companies from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business. In addition, we are required to maintain records that accurately and fairly represent our transactions and have an adequate system of internal accounting controls. Foreign companies, including some that may compete with us, may not be subject to these prohibitions, and therefore may have a competitive advantage over us. If we are not successful in implementing and maintaining adequate preventative measures, we may be responsible for acts of our employees or other agents engaging in such conduct. We could suffer severe penalties and other consequences that may have a material adverse effect on our financial condition and results of operations.

We are subject to governmental export and import controls that could subject us to liability or impair our ability to compete in international markets.

We are subject to export and import control laws, trade regulations and other trade requirements that limit which products we sell and where and to whom we sell our products. Specifically, the Bureau of Industry and Security of the U.S. Department of Commerce is responsible for regulating the export of most commercial items that are so called dual-use goods that may have both commercial and military applications. Our products are classified under Export Control Classification Numbers, or ECCNs, 5A991.b.5.a and 6A995. Export Control Classification requirements are dependent upon an item's technical characteristics, the destination, the end-use, the end-user, and other activities of the end-user. Should the regulations applicable to our products change, or the restrictions applicable to countries to which we ship our products change, then the export of our products to such countries could be restricted. As a result, our ability to export or sell our products to certain countries could be restricted, which could adversely affect our business, financial condition and results of operations.

Changes in our products or any change in export or import regulations or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by such regulations, could result in delayed or decreased sales of our products to existing or potential customers. In such event, our business and results of operations could be adversely affected.

Rapidly changing standards and regulations could make our products obsolete, which would cause our revenue and results of operations to suffer.

We design our products to conform to regulations established by governments and to standards set by industry standards bodies worldwide, such as the American National Standards Institute, the European Telecommunications Standards Institute, the International Telecommunications Union and the Institute of Electrical and Electronics Engineers, Inc. Various industry organizations are currently considering whether and to what extent to create standards applicable to our products. Because certain of our products are designed to conform to current specific industry standards, if competing or new standards emerge that are preferred by our customers, we would have to make significant expenditures to develop new products. If our customers adopt new or competing industry standards with which our products are not compatible, or the industry groups adopt standards or governments issue regulations with which our products are not compatible, our existing products would become less desirable to our customers and our revenue and results of operations would suffer.

Compliance with regulations related to conflict minerals could increase costs and affect the manufacturing and sale of our products.

Public companies are required to disclose the use of tin, tantalum, tungsten and gold (collectively, "conflict minerals") mined from the Democratic Republic of the Congo and adjoining countries (the "covered countries") if a conflict mineral(s) is necessary to the functionality of a product manufactured, or contracted to be manufactured, by the Company. We filed our latest conflict minerals report on Form SD on May 29, 2019. We have previously determined, as part of our compliance efforts, that certain products or components we obtain from our suppliers contain conflict minerals. Based on our Reasonable Country of Origin Inquiry on the source of our conflict minerals for the year ended December 31, 2019, we had reason to believe that certain of such conflict minerals likely originated in covered countries. If we are unable to conclude in the future that all our products are free from conflict minerals originating from covered countries, this could have a negative impact on our business, reputation and/or results of operations. We may also encounter challenges to satisfy customers who require that our products be certified as conflict free, which could place us at a competitive disadvantage if we are unable to substantiate such a claim. Compliance with these rules could also affect the sourcing and availability of some of the minerals used in the manufacture of products or components we obtain from our suppliers, including our ability to obtain products or components in sufficient quantities and/or at competitive prices. Certain of our customers are requiring additional information from us regarding the origin of our raw materials, and complying with these customer requirements may cause us to incur additional costs, such as costs related to determining the origin of any minerals used in our products. Our supply chain is complex and we may be unable to verify the origins for all metals used in our products. We may also encounter challenges with our customers and stockholders if we are unable to certify that our products are conflict free.

Some provisions of our named executive officers' agreements regarding change of control or separation of service contain obligations for us to make separation payments to them upon their termination.

Certain provisions contained in our employment agreements with our named executive officers regarding change of control or separation of service may obligate us to make lump sum severance payments and related payments upon the termination of their employment with us, other than such executive officer's resignation without good reason or our termination of their employment as a result of their disability or for cause. In the event we are required to make these separation payments, it could have a material adverse effect on our results of operations for the fiscal period in which such payments are made.

Risks Related to Our Operations in China

Our business operations conducted in China are critical to our success. A total of $83.3 million, $143.1 million, and $122.3 million or 43.6%, 53.6%, and 32.0%, of our revenue in the years ended December 31, 2019, 2018 and 2017 was attributable to our product manufactured at our plant in China, respectively. Additionally, a substantial portion of our property, plant and equipment, 37.1%, 36.8%, and 29.9% as of December 31, 2019, 2018 and 2017, was located in China, respectively. We expect to make further investments in China in the foreseeable future. Therefore, our business, financial condition, results of operations and prospects are to a significant degree subject to economic, political, legal, and social events and developments in China.

Adverse changes in economic and political policies in China, or Chinese laws or regulations could have a material adverse effect on business conditions and the overall economic growth of China, which could adversely affect our business.

The Chinese economy differs from the economies of most developed countries in many respects, including the level of government involvement, level of development, growth rate, control of foreign exchange and allocation of resources. The Chinese economy has been transitioning from a planned economy to a more market-oriented economy. Despite reforms, the government continues to exercise significant control over China's economic growth by way of the allocation of resources, control over foreign currency-denominated obligations and monetary policy and provision of preferential treatment to particular industries or companies.

In addition, the laws, regulations and legal requirements in China, including the laws that apply to foreign-invested enterprises, or FIEs, are subject to frequent changes. The interpretation and enforcement of such laws is uncertain. Protections of intellectual property rights and confidentiality in China may not be as effective as in the U.S. or other countries or regions with more developed legal systems. Any litigation in China may be protracted and result in substantial costs and diversion of resources and management attention. Any adverse changes to these laws, regulations and legal requirements or their interpretation or enforcement could have a material adverse effect on our business.

Furthermore, while China's economy has experienced rapid growth in the past 20 years, growth has been uneven across different regions, among various economic sectors and over time. China has also in the past and may in the future experience economic downturns due to, for example, government austerity measures, changes in government policies relating to capital spending, limitations placed on the ability of commercial banks to make loans, reduced levels of exports and international trade, inflation, lack of financial liquidity, stock market volatility and global economic conditions. Any of these developments could contribute to a decline in business and consumer spending in addition to other adverse market conditions, which could adversely affect our business.

The termination and expiration or unavailability of our preferential tax treatments in China may have a material adverse effect on our operating results.

Prior to January 1, 2008, entities established in China were generally subject to a 30% state and 3% local enterprise income tax rate. In accordance with the China Income Tax Law for Enterprises with Foreign Investment and Foreign Enterprises, effective through December 31, 2007, our China subsidiary enjoyed preferential income tax rates. Effective January 1, 2008, the China Enterprise Income Tax Law, or the EIT law, imposes a single uniform income tax rate of 25% on all Chinese enterprises, including FIEs, and eliminates or modifies most of the tax exemptions, reductions and preferential treatment available under the previous tax laws and regulations. As a result, our China subsidiary may be subject to the uniform income tax rate of 25% unless we are able to qualify for preferential status. Since calendar year 2012, we have qualified for a preferential 15% tax rate that is available for state-encouraged new high technology enterprises. In order to retain this preferential tax rate, we must meet certain operating conditions, satisfy certain product requirements, meet certain headcount requirements and maintain certain levels of research expenditures. In November 2017, we received approval from the Chinese government to extend this preferential tax treatment for an additional three years, ending November 2020. If we fail to continue to qualify for this preferential rate in the future, we may incur higher tax rates on our income in China. Any future increase in the enterprise income tax rate applicable to us or the expiration or other limitation of preferential tax rates available to us could increase our tax liabilities and reduce our net income.

The turnover of direct labor in manufacturing industries in China is high, which could adversely affect our production, shipments and results of operations.

Employee turnover of direct labor in the manufacturing sector in China is extremely high and retention of such personnel is a challenge to companies located in or with operations in China. Although direct labor costs do not represent a high proportion of our overall manufacturing costs, direct labor is required for the manufacture of our products. If our direct labor turnover rates are higher than we expect, or we otherwise fail to adequately manage our direct labor turnover rates, then our results of operations could be adversely affected.

Chinese regulation of loans to and direct investment by offshore holding companies in China entities may delay or prevent us from making loans or additional capital contributions to our China subsidiary.

Any loans that we wish to make to our China subsidiary are subject to Chinese regulations and approvals. For example, any loans to our China subsidiary to finance their activities cannot exceed statutory limits, must be registered with State Administration of Foreign Exchange, or SAFE, or its local counterpart, and must be approved by the relevant government authorities. Any capital contributions to our China subsidiary must be approved by the Ministry of Commerce or its local counterpart. In addition, under Circular 142, our China subsidiary, as a FIE, may not be able to convert our capital contributions to them into RMB for equity investments or acquisitions in China.

We cannot assure you that we will be able to obtain these government registrations or approvals on a timely basis, if at all, with respect to our future loans or capital contributions to our China subsidiary. If we fail to receive such registrations or approvals, our ability to capitalize our China subsidiary may be negatively affected, which could materially and adversely affect our liquidity and ability to fund and expand our business.

Our China subsidiary is subject to Chinese labor laws and regulations, and Chinese labor laws may increase our operating costs in China.

Chinese labor laws and regulations provide certain protections for our employees located in China, and changes to those labor laws and regulations may increase our costs and reduce our flexibility. The China Labor Contract Law, which went into effect in 2008, together with its implementing rules, provides increased rights to Chinese employees compared to prior employment laws in China. Under the rules under the China Labor Contract Law, the probation period varies depending on contract terms and the employment contract can only be terminated during the probation period for cause upon three days' notice. Additionally, an employer may not be able to terminate a contract during the probation period on the grounds of a material change of circumstances or a mass layoff. The law also has specific provisions on conditions when an employer has to sign an employment contract with open-ended terms. If an employer fails to enter into an open-ended contract in certain circumstances, the employer must pay the employee twice their monthly wage beginning from the time the employer should have executed an open-ended contract. Additionally, an employer must pay severance for nearly all terminations, including when an employer decides not to renew a fixed-term contract. Any further changes to these laws may increase our costs and reduce our flexibility.

An increase in our labor costs in China may adversely affect our business and our profitability.

A significant portion of our workforce is located in China. Labor costs in China have been increasing recently due to labor unrest, strikes and changes in employment laws. If labor costs in China continue to increase, our costs will increase. If we are not able to pass these increases on to our customers, our business, profitability and results of operations may be adversely affected.

We may have difficulty establishing and maintaining adequate management and financial controls over our China operations.

Businesses in China have historically not adopted a western style of management and financial reporting concepts and practices, which includes strong corporate governance, internal controls and computer, financial and other control systems. Moreover, familiarity with U.S. GAAP principles and reporting procedures is less common in China. As a consequence, we may have difficulty finding accounting personnel experienced with U.S. GAAP, and we may have difficulty training and integrating our China-based accounting staff with our U.S.-based finance organization. As a result of these factors, we may experience difficulty in establishing and maintaining management and financial controls over our China operations. These difficulties include collecting financial data and preparing financial statements, books of account and corporate records and instituting business practices that meet U.S. public-company reporting requirements. We may, in turn, experience difficulties in implementing and maintaining adequate internal controls as required under Section 404 of the Sarbanes-Oxley Act.

Risks Related to Our Common Stock

Our stock price has been and is likely to be volatile.

The market price of our common stock has been and is likely to be subject to wide fluctuations in response to, among other things, the risk factors described in this section of this Quarterly Report on Form 10-Q, and other factors beyond our control, such as fluctuations in the valuation of companies perceived by investors to be comparable to us. For example, announcements made by competitors regarding factors influencing their business may cause fluctuations in the valuation of companies throughout our industry, including fluctuations in the valuation of our stock.

Furthermore, the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes or international currency fluctuations, may negatively affect the market price of our common stock.

In the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We have been and may become the target of this type of litigation in the future. For example, on August 3, 2017 we provided guidance for the third quarter of 2017, and on August 4, 2017 the market price of our stock decreased significantly. As disclosed in "Part II - Item 1. Legal Proceedings," on August 5, 2017, a class action lawsuit was filed against us and two of our officers. The complaint in this matter alleges that we made materially false and misleading statements or failed to disclose material facts and requests damages and other relief. On August 7, 2018, a derivative class action lawsuit was filed against our chief executive officer, chief financial officer and board of directors. The allegations are substantially similar to those under the August 5, 2017 lawsuit. On October 1, 2018, another class action lawsuit was filed in the U.S. District Court for the Southern District of Texas against us and two of our officers. The complaint in this matter alleges that we made materially false and misleading statements or failed to disclose material facts and a related action was filed on October 10, 2018. These lawsuits and any other such litigation could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

We have incurred and will continue to incur significant increased expenses and administrative burdens as a public company, which could have a material adverse effect on our operations and financial results.

We face increased legal, accounting, administrative and other costs and expenses as a public company that we did not incur as a private company, and greater expenditures may be necessary in the future with the advent of new laws, regulations and stock exchange listing requirements pertaining to public companies. These increased costs will require us to divert a significant amount of money that we could otherwise use to expand our business and achieve our strategic objectives. The Sarbanes-Oxley Act, including the requirements of Section 404, as well as rules and regulations subsequently implemented by the SEC, the Public Company Accounting Oversight Board and the NASDAQ Global Market, impose additional reporting and other obligations on public companies. Compliance with public company requirements has increased our costs and made some activities more time-consuming. For example, we have created board committees and adopted internal controls and disclosure controls and procedures. In addition, we have incurred and will continue to incur additional expenses associated with our SEC reporting requirements. Furthermore, if we identify any issues in complying with those requirements (for example, if we or our auditors identify a material weakness or significant deficiency in our internal control over financial reporting), we could incur additional costs rectifying those issues, and the existence of those issues could adversely affect us, our reputation or investor perceptions of us. Advocacy efforts by stockholders and third parties may also prompt additional changes in governance and reporting requirements, which could further increase our costs. Legal, accounting, administrative and other costs and expenses may increase in the future as we continue to incur both increased external audit fees as well as additional spending to ensure continued regulatory compliance.

We currently do not intend to pay dividends on our common stock and, consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.

We currently do not plan to declare or pay dividends on shares of our common stock in the foreseeable future. Consequently, your only opportunity to achieve a return on any shares of our common stock that you may acquire will be if the market price of our common stock appreciates and you sell your shares at a profit. There is no guarantee that the price of our common stock in the market will ever exceed the price that you pay.

Our charter documents, stock incentive plans and Delaware law could prevent a takeover that stockholders consider favorable and could also reduce the market price of our stock.

Our amended and restated certificate of incorporation and our amended and restated bylaws and our stock incentive plans contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions. These provisions include:

- providing for a classified Board of Directors with staggered, three-year terms;
- not providing for cumulative voting in the election of directors;
- authorizing our Board of Directors to issue, without stockholder approval, preferred stock rights senior to those of common stock;
- prohibiting stockholder action by written consent;
- limiting the persons who may call special meetings of stockholders;
- requiring advance notification of stockholder nominations and proposals; and
- change of control provisions in our stock incentive plans, and the individual stock option agreements, which provide that a change of control may accelerate the vesting of the stock options and equity awards issued under such plans.

In addition, we are governed by the provisions of Section 203 of the Delaware General Corporate Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding common stock, from engaging in certain business combinations without the approval of substantially all of our stockholders for a certain period of time.

These and other provisions in our amended and restated certificate of incorporation, our amended and restated bylaws and under Delaware law could discourage potential takeover attempts, reduce the price that investors might be willing to pay for shares of our common stock in the future and result in the market price being lower than it would be without these provisions.

****Our Amended and Restated Certificate of Incorporation includes a forum selection clause, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us.***

Our Amended and Restated Certificate of Incorporation provides that, unless the Company consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or the Company's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or the Company's Amended and Restated Certificate of Incorporation or By-laws, or (iv) any action asserting a claim against the Company governed by the internal affairs doctrine. This exclusive forum provision will not apply to claims under the Securities Exchange Act of 1934 but will apply to other state and federal law claims including actions arising under the Securities Act of 1933 (although our stockholders will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder). Section 22 of the Securities Act of 1933, however, creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act of 1933 or the rules and regulations thereunder. Accordingly, there is uncertainty as to whether a court would enforce such a forum selection provision as written in connection with claims arising under the Securities Act of 1933. This forum selection provision in our Amended and Restated Certificate of Incorporation may limit our stockholders' ability to obtain a favorable judicial forum for disputes with us. It is also possible that a court could rule that such a provision is inapplicable or unenforceable.

If research analysts do not publish research about our business or if they issue unfavorable commentary or downgrade our common stock, our stock price and trading volume could decline.

The trading market for our common stock depends on the research and reports that research analysts publish about us and our business. The price of our common stock could decline if one or more research analysts downgrade our common stock or if those analysts issue other unfavorable commentary or cease publishing reports about us or our business. If one or more of the research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price or trading volume to decline.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

See Exhibit Index.

EXHIBIT INDEX

Number	Description
3.1*	Amended and Restated Certificate of Incorporation, as currently in effect (filed as Exhibit 3.1 to the Registrant’s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 14, 2013).
3.2*	Amended and Restated Bylaws, as currently in effect (filed as Exhibit 3.2 to the Registrant’s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 14, 2013).
4.1*	Common Stock Specimen (filed as Exhibit 4.1 to the Registrant’s Current Report on Form 8-K filed with the Securities and Exchange Commission on July 15, 2015).
4.2*	Indenture, dated as of March 5, 2019 between Applied Optoelectronics, Inc. and Wells Fargo Bank, National Association, as trustee, paying agent, and conversion agent (filed as Exhibit 4.1 to the Registrant’s Current Report on Form 8-K filed with the Securities and Exchange Commission on March 5, 2019).
4.3*	Form of Note representing the Company’s 5.00% Convertible Senior Notes due 2024 (included as Exhibit A to the Indenture filed as Exhibit 4.1 to the Registrant’s Current Report on Form 8-K filed with the Securities and Exchange Commission on March 5, 2019).
10.1*	Paycheck Protection Program Loan Promissory Note, dated April 17, 2020, executed by Applied Optoelectronics, Inc.(included as Exhibit 10.1 to the Registrant’s Current Report on Form 8-K filed with the Securities and Exchange Commission on April 22, 2020).
31.1**	Certification of Chief Executive Officer pursuant to Exchange Act Rule, 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2**	Certification of Chief Financial Officer pursuant to Exchange Act Rule, 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification pursuant to 18 U.S.C. 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Chief Executive Officer and Chief Financial Officer.
101.INS**	Inline XBRL Instance – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH**	Inline XBRL Taxonomy Extension Schema Document.

101.CAL**	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF**	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB**	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE**	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104**	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, formatted in Inline XBRL.

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* Incorporated herein by reference to the indicated filing.
** Filed herewith.

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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.

APPLIED OPTOELECTRONICS, INC.

Date: August 6, 2020

By: /s/ STEFAN J. MURRY
STEFAN J. MURRY
Chief Financial Officer
(principal financial officer and principal accounting officer)

Exhibit 31.1

Certification

I, Chih-Hsiang (Thompson) Lin, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Applied Optoelectronics, Inc.;

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 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 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: August 6, 2020

/s/ CHIH-HSIANG (THOMPSON) LIN

CHIH-HSIANG (THOMPSON) LIN
President and Chief Executive Officer

Exhibit 31.2

Certification

I, Stefan J. Murry, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Applied Optoelectronics, Inc.;

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 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 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: August 6, 2020

/s/ STEFAN J. MURRY

STEFAN J. MURRY
Chief Financial Officer

Exhibit 32.1

Certification

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and Section 1350 of Chapter 63 of Title 18 of the U.S. Code (18 U.S.C. § 1350), Chih-Hsiang (Thompson) Lin, President and Chief Executive Officer of Applied Optoelectronics, Inc. (the “Company”), and Stefan J. Murry, Chief Financial Officer and Senior Vice President of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company’s Quarterly Report on Form 10-Q for the period ended June 30, 2020, to which this Certification is attached as Exhibit 32.1 (the “Quarterly Report”) fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

2. The information contained in the Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

In Witness Whereof, the undersigned have set their hands hereto as of the 6th day of August, 2020.

/s/ CHIH-HSIANG (THOMPSON) LIN	/s/ STEFAN J. MURRY
CHIH-HSIANG (THOMPSON) LIN	STEFAN J. MURRY
President and Chief Executive Officer	Chief Financial Officer

This certification accompanies the Quarterly Report to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Applied Optoelectronics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Quarterly Report), irrespective of any general incorporation language contained in such filing.