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

FORM 10-Q

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

For the quarterly period ended September 30, 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 November 2, 2020, there were 22,976,246 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)

	September 30, 2020	December 31, 2019
ASSETS		
Current Assets		
Cash and cash equivalents	$ 46,772	$ 59,977
Restricted cash	11,296	7,051
Accounts receivable - trade, net of allowance of $30 and $30, respectively	51,453	34,655
Inventories	111,427	85,028
Prepaid income tax	177	224
Prepaid expenses and other current assets	8,805	5,869
Total current assets	229,930	192,804
Property, plant and equipment, net	249,740	248,444
Land use rights, net	5,640	5,598
Operating right of use asset	7,792	7,768
Financing right of use asset	96	119
Intangible assets, net	4,031	4,081
Deferred income tax assets	-	7,287
Other assets, net	558	724
TOTAL ASSETS	$ 497,787	$ 466,825
LIABILITIES AND STOCKHOLDERS' EQUITY		

Current liabilities		
Current portion of notes payable and long-term debt	$ 44,292	$ 33,371
Accounts payable	56,134	32,828
Bank acceptance payable	13,366	6,310
Current lease liability - operating	983	965
Current lease liability - financing	17	17
Accrued liabilities	17,526	17,864
Total current liabilities	132,318	91,355
Notes payable and long-term debt, less current portion	14,564	16,552
Convertible senior notes	77,646	77,041
Non-current lease liability - operating	8,007	7,983
Non-current lease liability - financing	86	100
TOTAL LIABILITIES	232,621	193,031
Stockholders' equity:		
Preferred Stock; 5,000 shares authorized at $0.001 par value; no shares issued and outstanding at September 30, 2020 and December 31, 2019, respectively	-	-
Common Stock; 45,000 shares authorized at $0.001 par value; 22,887 and 20,140 shares issued and outstanding at September 30, 2020 and December 31, 2019, respectively	23	20
Additional paid-in capital	335,035	303,401
Accumulated other comprehensive (loss) and income	5,178	430
Accumulated deficit	(75,070)	(30,057)
TOTAL STOCKHOLDERS' EQUITY	265,166	273,794
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 497,787	$ 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 September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Revenue, net	$ 76,608	$ 46,084	$ 182,298	$ 142,214
Cost of goods sold	57,418	34,108	143,034	107,349
Gross profit	19,190	11,976	39,264	34,865
Operating expenses				
Research and development	11,206	10,466	32,567	32,802
Sales and marketing	4,491	2,518	10,858	7,444
General and administrative	10,272	9,988	31,520	31,312
Total operating expenses	25,969	22,972	74,945	71,558
Loss from operations	(6,779)	(10,996)	(35,681)	(36,693)
Other income (expense)				
Interest income	26	347	220	729
Interest expense	(1,480)	(1,517)	(4,424)	(4,003)
Other income (expense), net	866	1,446	2,096	1,742
Total other income (expense), net	(588)	276	(2,108)	(1,532)
Loss before income taxes	(7,367)	(10,720)	(37,789)	(38,225)
Income tax benefit (expense)	(2,249)	1,940	(7,224)	7,605
Net loss	$ (9,616)	$ (8,780)	$ (45,013)	$ (30,620)
Net loss per share				
Basic	$ (0.42)	$ (0.44)	$ (2.12)	$ (1.54)
Diluted	$ (0.42)	$ (0.44)	$ (2.12)	$ (1.54)
Weighted average shares used to compute net loss per share:				
Basic	22,744,361	20,022,520	21,275,778	19,939,605
Diluted	22,744,361	20,022,520	21,275,778	19,939,605

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 September **Nine months ended September**

	30,		30,	
	2020	2019	2020	2019
Net loss	$ (9,616)	$ (8,780)	$ (45,013)	$ (30,620)
(Gain) loss on foreign currency translation adjustment	5,696	(3,453)	4,748	(4,434)
Comprehensive loss	$ (3,920)	$ (12,233)	$ (40,265)	$ (35,054)

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 Nine Months ended September 30, 2020 and 2019
(Unaudited, in thousands)

	Preferred Stock		Common Stock		Additional paid-in capital	Accumulated other comprehensive gain (loss)	Accumulated deficit	Stockholders' equity
	Number of shares	Amount	Number of shares	Amount				
June 30, 2020	—	$ —	21,940	$ 22	$ 323,405	$ (518)	$ (65,454)	$ 257,455
Public offering of common stock, net	—	—	780	1	8,702	—	—	8,703
Stock options exercised, net of shares withheld for employee tax	—	—	2	—	11	—	—	11
Issuance of restricted stock, net of shares withheld for employee tax	—	—	165	—	(348)	—	—	(348)
Share-based compensation	—	—	—	—	3,265	—	—	3,265
Foreign currency translation adjustment	—	—	—	—	—	5,696	—	5,696
Net loss	—	—	—	—	—	—	(9,616)	(9,616)
September 30, 2020	—	$ —	22,887	$ 23	$ 335,035	$ 5,178	$ (75,070)	$ 265,166

	Preferred Stock		Common Stock		Additional paid-in capital	Accumulated other comprehensive gain (loss)	Retained earnings	Stockholders' equity
	Number of shares	Amount	Number of shares	Amount				
June 30, 2019	—	$ —	19,951	$ 20	$ 297,922	$ (379)	$ 14,152	$ 311,715
Stock options exercised, net of shares withheld for employee tax	—	—	1	—	1	—	—	1
Issuance of restricted stock, net of shares withheld for employee tax	—	—	109	—	(176)	—	—	(176)
Share-based compensation	—	—	—	—	2,978	—	—	2,978
Foreign currency translation adjustment	—	—	—	—	—	(3,453)	—	(3,453)
Net loss	—	—	—	—	—	—	(8,780)	(8,780)
September 30, 2019	—	$ —	20,061	$ 20	$ 300,725	$ (3,832)	$ 5,372	$ 302,285

	Preferred Stock		Common Stock		Additional paid-in capital	Accumulated other comprehensive gain (loss)	Accumulated deficit	Stockholders' equity
	Number of shares	Amount	Number of shares	Amount				
January 1, 2020	—	$ —	20,140	$ 20	$ 303,401	$ 430	$ (30,057)	$ 273,794
Public offering of common stock, net	—	—	2,362	2	22,629		—	22,631
Stock options exercised, net of shares withheld for employee tax	—	—	2	—	14	—	—	14
Issuance of restricted stock, net of shares withheld for employee tax	—	—	383	1	(813)	—	—	(812)
Share-based compensation	—	—	—	—	9,804	—	—	9,804
Foreign currency translation adjustment	—	—	—	—	—	4,748	—	4,748
Other	—	—	—	—	—	—	—	—
Net loss	—	—	—	—	—	—	(45,013)	(45,013)
September 30, 2020	—	$ —	22,887	$ 23	$ 335,035	$ 5,178	$ (75,070)	$ 265,166

	Preferred Stock		Common Stock		Additional paid-in capital	Accumulated other comprehensive gain (loss)	Retained earnings	Stockholders' equity
	Number of shares	Amount	Number of shares	Amount				
January 1, 2019	—	$ —	19,810	$ 20	$ 292,480	$ 602	$ 35,992	$ 329,094
Stock options exercised, net of shares withheld for employee tax	—	—	1	—	8	—	—	8
Issuance of restricted stock, net of shares withheld for employee tax	—	—	250	—	(702)	—	—	(702)
Share-based compensation	—	—	—	—	8,939	—	—	8,939
Foreign currency translation adjustment	—	—	—	—	—	(4,434)	—	(4,434)
Net loss	—	—	—	—	—	—	(30,620)	(30,620)
September 30, 2019	—	$ —	20,061	$ 20	$ 300,725	$ (3,832)	$ 5,372	$ 302,285

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 CASH FLOWS
(Unaudited, in thousands)

	Nine months ended September 30,	
	2020	2019
Operating activities:		
Net loss	$ (45,013)	$ (30,620)
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Lower of cost or market reserve adjustment to inventory	3,340	6,615
Depreciation and amortization	18,350	17,982
Amortization of debt issuance costs	673	673
Deferred income taxes, net	7,358	(7,710)
Loss on disposal of assets	15	10
Share-based compensation	9,804	8,939
Unrealized foreign exchange gain	(323)	(220)
Changes in operating assets and liabilities:		
Accounts receivable, trade	(16,799)	825
Notes receivable	3	(3)
Prepaid income tax	13	426
Inventories	(27,303)	3,197
Other current assets	(2,692)	5,577
Operating right of use asset	189	738
Accounts payable	23,306	(1,836)
Accrued liabilities	(620)	(2,405)
Lease liability	(206)	(777)
Net cash (used in) provided by operating activities	(29,905)	1,411
Investing activities:		
Purchase of property, plant and equipment	(12,132)	(25,982)
Proceeds from disposal of equipment	166	2
Deposits and prepaid for equipment	(2,733)	(520)
Purchase of intangible assets	(376)	(497)
Net cash used in investing activities	(15,075)	(26,997)
Financing activities:		
Proceeds from issuance of notes payable and long-term debt, net of debt issuance costs	6,229	13,661
Principal payments of long-term debt and notes payable	(4,066)	(42,272)
Proceeds from line of credit borrowings	73,700	59,296
Repayments of line of credit borrowings	(67,430)	(66,299)
Proceeds from bank acceptance payable	26,341	8,214
Repayments of bank acceptance payable	(19,598)	(8,682)
Proceeds from issuance of convertible senior notes, net of debt issuance costs	(18)	76,362
Principal payments of financing lease	(13)	—
Exercise of stock options	14	8
Payments of tax withholding on behalf of employees related to share-based compensation	(813)	(702)
Proceeds from common stock offering, net	22,632	—
Net cash provided by financing activities	36,978	39,586
Effect of exchange rate changes on cash	(958)	372
Net increase (decrease) in cash, cash equivalents and restricted cash	(8,960)	14,372
Cash, cash equivalents and restricted cash at beginning of period	67,028	58,004
Cash, cash equivalents and restricted cash at end of period	$ 58,068	$ 72,376
Supplemental disclosure of cash flow information:		
Cash paid (received) for:		
Interest, net of amounts capitalized	$ 4,739	$ 2,933
Income taxes	(192)	(329)
Non-cash investing and financing activities:		
Net change in accounts payable related to property and equipment additions	1,173	(4,626)
Net change in deposits and prepaid for equipment related to property and equipment additions	36	6,370

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 September 30, 2020 and December 31, 2019 and for the three and nine months ended September 30, 2020 and September 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 nine months ended September 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 nine months ended September 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", which 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, and is 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.

In August 2020, the FASB issued ASU 2020-06, "Debt - Debt with Conversion and Other Options (Subtopic 470-20)" and "Derivatives and Hedging - Contracts in Entities Own Equity" (Subtopic 815-40). This ASU simplifies accounting for convertible instruments by eliminating two of the three models in ASC 470-20 that requires separating embedded conversion features from convertible instruments. The guidance is effective for fiscal years beginning after December 15, 2021. 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 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 September 30,			
	2020	% of Revenue	2019	% of Revenue
Data Center	$ 55,336	72.2%	$ 34,006	73.8%
CATV	11,642	15.2%	8,797	19.1%
Telecom	8,870	11.6%	2,868	6.2%
FTTH	67	0.1%	39	0.1%
Other	693	0.9%	374	0.8%
Total Revenue	$ 76,608	100.0%	$ 46,084	100.0%

	Nine months ended September 30,			
	2020	% of Revenue	2019	% of Revenue
Data Center	$ 141,133	77.4%	$ 104,311	73.3%
CATV	22,007	12.1%	30,577	21.5%
Telecom	17,600	9.7%	6,236	4.4%
FTTH	69	0.0%	149	0.1%
Other	1,489	0.8%	941	0.7%
Total Revenue	$ 182,298	100.0%	$ 142,214	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 September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Operating lease expense	$ 299	$ 287	$ 890	$ 929
Financing lease expense	8	—	24	—
Short Term lease expense	35	20	104	100
Total lease expense	$ 342	$ 307	$ 1,018	$ 1,029

Maturities of lease liabilities are as follows for the future one-year periods ending September 30, 2020 (in thousands):

	Operating	Financing
2021	$ 1,297	$ 22
2022	1,305	22
2023	1,225	22
2024	1,162	49
2025	1,180	—
2026 and thereafter	4,352	—
Total lease payments	$ 10,521	$ 115
Less imputed interest	(1,531)	(12)
Present value	$ 8,990	$ 103

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

	September 30,	
	2020	2019
Weighted Average Remaining Lease Term (Years) - operating leases	8.41	9.46
Weighted Average Remaining Lease Term (Years) - financing leases	3.08	—
Weighted Average Discount Rate - operating leases	3.23%	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):

	Nine months ended September 30,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	983	1,002
Operating cash flows from financing lease	4	—
Financing cash flows from financing lease	13	—
Right-of-use assets obtained in exchange for new operating lease liabilities	699	39

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):

	September 30, 2020	December 31, 2019
Cash and cash equivalents	$ 46,772	$ 59,977
Restricted cash	11,296	7,051
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	$ 58,068	$ 67,028

Restricted cash includes guarantee deposits for customs duties, China government subsidy fund, and compensating balances required for certain credit facilities. As of September 30, 2020 and December 31, 2019, there was $4.1 million and $1.9 million of restricted cash required for bank acceptance notes issued to vendors, respectively. In addition, there was $5.9 million and $4.2 million certificate of deposit associated with credit facilities with a bank in China as of September 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 September 30,		Nine months ended September 30,	
	2020	**2019**	**2020**	**2019**
Numerator:				
Net loss	$ (9,616)	$ (8,780)	$ (45,013)	$ (30,620)
Denominator:				
Weighted average shares used to compute net loss per share				
Basic	22,744	20,023	21,276	19,940
Diluted	22,744	20,023	21,276	19,940
Net loss per share				
Basic	$ (0.42)	$ (0.44)	$ (2.12)	$ (1.54)
Diluted	$ (0.42)	$ (0.44)	$ (2.12)	$ (1.54)

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 September 30,		Nine months ended September 30,	
	2020	**2019**	**2020**	**2019**
Employee stock options	51	16	27	50
Restricted stock units	113	19	9	-
Shares for convertible senior notes	4,587	4,587	4,587	4,587
Total antidilutive shares	4,751	4,622	4,623	4,637

Note 7. Inventories

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

	September 30, 2020	**December 31, 2019**
Raw materials	$ 33,222	$ 15,570
Work in process and sub-assemblies	58,515	50,787
Finished goods	19,690	18,671
Total inventories	$ 111,427	$ 85,028

The lower of cost or market adjustment expensed for inventory for the three months ended September 30, 2020 and 2019 was $0.4 million and $1.4 million, respectively. The lower of cost or market adjustment expensed for inventory for the nine months ended September 30, 2020 and 2019 was $3.3 million and $6.6 million, respectively.

For the three months ended September 30, 2020 and 2019, the direct inventory write-offs related to scrap, discontinued products, and damaged inventories were $8.4 million and $3.1 million, respectively. For the nine months ended September 30, 2020 and 2019, the direct inventory write-offs related to scrap, discontinued products, and damaged inventories were $14.7 million and $8.4 million, respectively.

Note 8. Property, Plant & Equipment

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

	September 30, 2020	December 31, 2019
Land improvements	$ 806	$ 806
Building and improvements	86,524	83,846
Machinery and equipment	244,976	237,464
Furniture and fixtures	5,444	5,105
Computer equipment and software	11,355	10,506
Transportation equipment	676	658
	349,781	338,385
Less accumulated depreciation and amortization	(133,561)	(116,979)
	216,220	221,406
Construction in progress	32,419	25,937
Land	1,101	1,101
Total property, plant and equipment, net	$ 249,740	$ 248,444

For the three months ended September 30, 2020 and 2019, depreciation expense of property, plant and equipment was $6.1 million and $5.9 million, respectively. For the nine months ended September 30, 2020 and 2019, depreciation expense of property, plant and equipment was $17.9 million and $17.6 million, respectively. For the three and nine months ended September 30, 2020, the capitalized interest was $0.1 million and $0.3 million, respectively.

As of September 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):

	September 30, 2020		
	Gross Amount	Accumulated amortization	Intangible assets, net
Patents	$ 8,029	$ (4,005)	$ 4,024
Trademarks	22	(15)	7
Total intangible assets	$ 8,051	$ (4,020)	$ 4,031

	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 September 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 nine months ended September 30, 2020 and 2019, amortization expense for intangible assets, included in general and administrative expenses on the income statement, was each $0.4 million. The remaining weighted average amortization period for intangible assets is approximately 7 years.

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

2021	$ 570
2022	570
2023	570
2024	570
2025	570
thereafter	1,181
	$ 4,031

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 September 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	$ 46,772	$ —	$ —	$ 46,772	$ 59,977	$ —	$ —	$ 59,977
Restricted cash	11,296	—	—	11,296	7,051	—	—	7,051
Total assets	$ 58,068	$ —	$ —	$ 58,068	$ 67,028	$ —	$ —	$ 67,028
Liabilities:								
Bank acceptance payable	$ —	$ 13,366	$ —	$ 13,366	$ —	$ 6,310	$ —	6,310
Convertible senior notes	—	74,240	—	74,240	—	77,191	—	77,191
Total liabilities	$ —	$ 87,606	$ —	$ 87,606	$ —	$ 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):

	September 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	$ 18,700	$ 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 October 16, 2020	3,436	3,336
Notes payable to a finance company due in monthly installments with 3.5% interest, maturing January 21, 2022	2,419	4,262
Notes payable to a finance company due in monthly installments with 3.1% interest, maturing January 21, 2022	2,588	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	1,016	—
Revolving line of credit with a China bank up to $25,449 with interest from 3.01% to 4.57%, maturing May 24, 2024	12,162	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	7,342	7,167
Sub-total	58,891	49,985
Less debt issuance costs, net	(35)	(62)
Grand total	58,856	49,923
Less current portion	(44,292)	(33,371)
Non-current portion	$ 14,564	$ 16,552

Bank Acceptance Notes Payable		
Bank acceptance notes issued to vendors with a zero percent interest rate	$ 13,366	$ 6,310

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

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

2021	$	44,292
2022		14,564
Total outstanding	$	58,856

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 September 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 September 30, 2020, the Company was in compliance with all covenants under the Fourth Amendment. As of September 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 ("SBA"). The Company applied for forgiveness of the principal amount of the PPP Term Note on September 14, 2020 and currently expects the application to get approved. The forgiveness application is being reviewed by Truist Bank. Under current SBA guidelines, due to the size of the loan we anticipate a further review by the SBA upon completion of the review by Truist Bank. The timing of the completion of the review by Truist Bank and the subsequent review by SBA is currently uncertain. Until such time as the forgiveness assessment has been completed by the SBA, the Company will not be required to make any payments under the terms of the PPP Term Note.

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 September 30, 2020, $2.4 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 September 30, 2020, $2.6 million was outstanding under the Second Equipment Finance Agreement.

On September 15, 2020, Prime World entered into an Amendment to the Sale Contract and Second Sales Contract (the "Amendment") with Chailease Finance Co., Ltd. ("Chailease"). The Amendment amends the Sales Contract, dated November 29, 2018 and the Second Sales Contract, dated January 21, 2019 (hereafter collectively referred to as the "Original Sales Contracts"). Pursuant to the Amendment, Prime World agrees to pay Chailease NT$22,311,381, or approximately $0.8 million for certain leased equipment listed in the Amendment (the "Leased Equipment"). This payment will include all outstanding lease payments, costs and expenses; simultaneously, Chailease agrees to transfer title of such Leased Equipment back to Prime World. Regarding all other equipment contemplated in the Original Sales Contracts but not listed in the Amendment, pursuant to the terms and conditions made under the Original Sales Contracts, Prime World is obligated to pay Chailease monthly lease payments which total NT$159,027,448, or approximately $5.5 million (the "Lease Payments"). The Lease Payments will begin on September 21, 2020 with the last Lease Payment due on January 21, 2022, title of all other equipment contemplated under the Original Sales Contracts but not listed in the Amendment will transfer to Prime World upon completion of the Lease Payments and expiration of the Original Sales Contracts.

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. On April 9, 2020, Prime World repaid the Far Eastern Credit Facility without penalty and terminated the agreement.

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". On July 20, 2020, the NT$100M Credit Line with Taishin was extended for three (3) months until October 16, 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 September 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 September 30, 2020, $1.0 million was outstanding under the China Merchants Credit Line and there was no outstanding balance of bank acceptance notes issued to vendors under this facility.

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 was 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 was 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 was 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 September 30, 2020, $12.2 million was outstanding under the SPD Credit Line and the outstanding balance of bank acceptance notes issued to vendors was $13.4 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 September 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 September 30, 2020, $7.3 million was outstanding under the ¥50M Credit Facility.

As of September 30, 2020 and December 31, 2019, the Company had $23.7 million and $34.7 million of unused borrowing capacity, respectively.

One-month LIBOR rates were 0.1% and 1.8% at September 30, 2020 and December 31, 2019, respectively.

As of September 30, 2020 and December 31, 2019, there was $10.0 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):

	September 30, 2020	December 31, 2019
Principal	$ 80,500	$ 80,500
Unamortized debt issuance costs	(2,854)	(3,459)
Net carrying amount	$ 77,646	$ 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 September 30,		Nine months ended September 30,	
	2020	**2019**	**2020**	**2019**
Contractual interest expense	$ 1,006	$ 984	$ 3,018	$ 2,270
Amortization of debt issuance costs	209	207	623	473
Total interest cost	$ 1,215	$ 1,191	$ 3,641	$ 2,743
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):

	September 30, 2020	December 31, 2019
Accrued payroll	$ 9,695	$ 11,009
Accrued employee benefits	2,906	2,288
Accrued state and local taxes	962	1,215
Accrued interest	232	1,208
Advance payments	404	312
Accrued product warranty	977	821
Accrued commission expenses	1,077	420
Accrued professional fees	272	222
Accrued utility expenses	105	155
Accrued other	896	214
Total accrued liabilities	$ 17,526	$ 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 September 30,		Nine months ended September 30,	
	2020	**2019**	**2020**	**2019**
Foreign exchange transaction (loss) gain	$ (271)	$ 322	$ (18)	$ 305
Government subsidy income	847	1,138	1,828	1,360
Other non-operating gain (loss)	296	(14)	301	87
Loss on disposal of assets	(6)	—	(15)	(10)
Total other income, net	$ 866	$ 1,446	$ 2,096	$ 1,742

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	$ 10.22		$ 5.32		$ 573
Exercised	(2)	—	—			—
Outstanding, September 30, 2020	279	$ 10.25		$ 5.36	2.89	418
Exercisable, September 30, 2020	279	$ 10.25			2.89	418
Vested and expected to vest	279	$ 10.25			2.89	418

As of September 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	1,185		11.42	13,536
Released	(465)	$ 11.77	21.17	5,472
Cancelled/Forfeited	(38)		15.14	426
Outstanding, September 30, 2020	1,452		15.5	16,333
Vested and expected to vest	1,452		15.5	16,333

As of September 30, 2020, there was $20.0 million of unrecognized compensation expense related to these RSUs and RSAs. This expense is expected to be recognized over 2.42 years.

Share-Based Compensation

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

	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Share-based compensation - by expense type				
Cost of goods sold	$ 230	$ 196	$ 712	$ 584
Research and development	706	647	2,098	1,943
Sales and marketing	298	275	884	824
General and administrative	2,031	1,860	6,110	5,588
Total share-based compensation expense	$ 3,265	$ 2,978	$ 9,804	$ 8,939

Note 16. Income Taxes

The Company's effective tax rate for the three months ended September 30, 2020 and 2019 was (30.69%) and 17.6%, respectively. For the three months ended September 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the change of the valuation allowance on federal, state, and Taiwan deferred tax assets ("DTA"), and the recording of a valuation allowance on China deferred tax assets. For the three months ended September 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 nine months ended September 30, 2020 and 2019 was (19.15%) and 19.9%, respectively. For the nine months ended September 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the change of the valuation allowance on federal, and state, deferred tax assets, and the recording of a valuation allowance on Taiwan and China deferred tax assets. For the nine months ended September 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 September 30, 2020 in China. 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 September 30, 2020, a valuation allowance of $2.8 has been recorded in China 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 nine months ended September 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 September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Revenues:				
United States	$ 4,887	$ 2,898	$ 13,383	$ 6,547
Taiwan	45,821	28,390	105,196	74,519
China	25,900	14,796	63,719	61,148
	$ 76,608	$ 46,084	$ 182,298	$ 142,214

	As of the period ended	
	September 30, 2020	December 31, 2019
Long-lived assets:		
United States	$ 92,528	$ 94,507
Taiwan	70,512	73,816
China	104,259	97,687
	$ 267,299	$ 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 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, 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 the Company's applicable directors' and officers' insurance policies. On October 20, 2020, Plaintiffs filed motions with the Court seeking final approval of the class action settlement and 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 been set for November 24, 2020. 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 Defendants were required to file and serve their response or responsive pleading to the complaint by August 3, 2020. By agreement of the parties, the Court subsequently extended the deadline for Defendants to file and serve their response or responsive pleading to November 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 $18.7 million.

On October 7, 2020, Prime World entered into a revolving credit facility totaling NT$100,000,000, or approximately $3.44 million (the “NT$100M Credit Line”) and 1,000,000 USD (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; 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 “Credit Facility”. Prime World may draw upon the Credit Facility from October 7, 2020 through January 31, 2021. The term of each draw under the NT$100M Credit Line shall be either 90 or 120 days and will bear interest at a rate of 2.15% for each draw; borrowings under the US$1M Credit Line will bear interest equal to 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 Credit Facility will be secured by a promissory note between Prime World and Taishin.

On October 19, 2020, Global entered into a twelve (12) month revolving line of credit agreement, totaling 60,000,000 RMB, or approximately $8.91 million (the “Credit Line”), with China Merchants Bank Co., Ltd., in Ningbo, China (“China Merchants”). The Credit Line will be used by Global for general corporate purposes. Global may draw upon the Credit Line from October 16, 2020 until October 15, 2021 (the “Credit Period”). During the Credit Period, Global may request to draw upon the Credit Line on an as-needed basis; however, the amount of available credit under the 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 the China Merchants’ commercial banking interest rate effective on the day of the applicable draw. Global’s obligations under the Credit Line is unsecured.

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 September 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 telecom service providers. In the telecom market, we benefit from deployment of new high-speed fiber-optic networks by telecom network operators, especially those networks designed to enable ultra wideband "5G" services.

Our vertically integrated manufacturing model provides us several advantages, including rapid product development, fast response times to customer requests and greater 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, FTTH and 5G telecom 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.

COVID-19 Pandemic

We are subject to risks and uncertainties as a result of the COVID-19 pandemic. The extent of the impact of the COVID-19 pandemic on our business is highly uncertain and difficult to predict as coronavirus continues to spread around the world. There is still no vaccine, and treatments are limited. In March 2020, we instituted travel restrictions and implemented sanitation and disinfection procedures to safeguard the health and safety of our employees which continue today. The spread of COVID-19 has had a prolonged impact on our supply chain operations through restrictions, reduced capacity and shutdown of business activities by suppliers whom we rely on for sourcing components and materials and third-party partners whom we rely on for manufacturing, warehousing and logistics services. Although demand for our products has been strong in the short-term as subscribers seek more bandwidth, customers' purchasing decisions over the long-term may be impacted by the pandemic and its impact on the economy, which could in turn impact our revenue and results of operations. The extent to which the COVID-19 pandemic may materially impact our financial condition, liquidity or results of operations is uncertain.

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 September 30, 2020		Three months ended September 30, 2019		Nine months ended September 30, 2020		Nine months ended September 30, 2019	
Revenue, net	$ 76,608	100.0%	$ 46,084	100.0%	$ 182,298	100.0%	$ 142,214	100.0%
Cost of goods sold	57,418	75.0%	34,108	74.0%	143,034	78.5%	107,349	75.5%
Gross profit	19,190	25.0%	11,976	26.0%	39,264	21.5%	34,865	24.5%
Operating expenses								
Research and development	11,206	14.6%	10,466	22.7%	32,567	17.9%	32,802	23.1%
Sales and marketing	4,491	5.9%	2,518	5.5%	10,858	6.0%	7,444	5.2%
General and administrative	10,272	13.4%	9,988	21.7%	31,520	17.3%	31,312	22.0%
Total operating expenses	25,969	33.9%	22,972	49.8%	74,945	41.1%	71,558	50.3%
Loss from operations	(6,779)	(8.8)%	(10,996)	(23.9)%	(35,681)	(19.6)%	(36,693)	(25.8)%
Other income (expense)								
Interest income	26	0.0%	347	0.8%	220	0.1%	729	0.5%
Interest expense	(1,480)	(1.9)%	(1,517)	(3.3)%	(4,424)	(2.4)%	(4,003)	(2.8)%
Other income, net	866	1.1%	1,446	3.1%	2,096	1.1%	1,742	1.2%
Total other income (expense), net	(588)	(0.8)%	276	0.6%	(2,108)	(1.2)%	(1,532)	(1.1)%
Loss before income taxes	(7,367)	(9.6)%	(10,720)	(23.3)%	(37,789)	(20.7)%	(38,225)	(26.9)%
Income tax benefit (expense)	(2,249)	(2.9)%	1,940	4.2%	(7,224)	(4.0)%	7,605	5.3%
Net loss	$ (9,616)	(12.6)%	$ (8,780)	(19.1)%	$ (45,013)	(24.7)%	$ (30,620)	(21.5)%

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 nine months ended September 30, 2020 and 2019 (in thousands, except percentages):

	Three months ended September 30,				Change	
	2020	% of Revenue	2019	% of Revenue	Amount	%
Data Center	$ 55,336	72.2%	$ 34,006	73.8%	$ 21,330	62.7%
CATV	11,642	15.2%	8,797	19.1%	2,845	32.3%
Telecom	8,870	11.6%	2,868	6.2%	6,002	209.3%
FTTH	67	0.0%	39	0.1%	28	71.8%
Other	693	0.9%	374	0.8%	319	85.3%
Total Revenue	$ 76,608	100.0%	$ 46,084	100.0%	$ 30,524	66.2%

	Nine months ended September 30,				Change	
	2020	% of Revenue	2019	% of Revenue	Amount	%
Data Center	$ 141,133	77.4%	$ 104,311	73.3%	$ 36,822	35.3%
CATV	22,007	12.1%	30,577	21.5%	(8,570)	(28.0)%
Telecom	17,600	9.7%	6,236	4.4%	11,364	182.2%

FTTH	69	0.0%	149	0.1%	(80)	(53.7)%
Other	1,489	0.8%	941	0.7%	548	58.2%
Total Revenue	$ 182,298	100.0%	$ 142,214	100.0%	$ 40,084	28.2%

The increase in revenue during the three and nine months ended September 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. For the nine months ended September 30, 2020, these increases were partially offset by a decrease in demand for CATV products. However, for the three months ended September 30, 2020, demand for CATV products increased, which added to the increases in data center and telecom revenue. 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 for the nine months period was mainly a result of reduced overall market demand for CATV outside plant products earlier in 2020, which we attribute to reduced desire on the part of CATV multiple-system operators ("MSOs") to deploy capex to increase their network capacity. The increase in revenue for our CATV products in the three months ended September 30, 2020 is due to increased demand from CATV MSOs as the began to add capacity to their networks. This increase in demand was at least partially attributable to network capacity expansion, particularly in the upstream direction, which is related to changes in network traffic due to increased working from home in the US earlier in the year.

For the three months ended September 30, 2020 and 2019, our top ten customers represented 84.9% and 88.3% of our revenue, respectively. For the nine months ended September 30, 2020 and 2019, our top ten customers represented 84.9% and 89.0% 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 September 30,					
	2020		2019		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
	(in thousands, except percentages)					
Cost of goods sold	$ 57,418	75.0%	$ 34,108	74.0%	$ 23,310	68.3%
Gross margin	19,190	25.0%	11,976	26.0%		

	Nine months ended September 30,					
	2020		2019		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
	(in thousands, except percentages)					
Cost of goods sold	$ 143,034	78.5%	$ 107,349	75.5%	$ 35,685	33.2%
Gross margin	39,264	21.5%	34,865	24.5%		

Cost of goods sold increased by $23.3 million, or 68.3%, for the three months ended September 30, 2020 as compared to the three months ended September 30, 2019, primarily due to a 66.2% increase in sales over the prior year. Cost of goods sold increased by $35.7 million, or 33.2%, for the nine months ended September 30, 2020 as compared to the nine months ended September 30, 2019, primarily due to a 28.2% 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.

Operating expenses

	Three months ended September 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Research and development	$ 11,206	14.6%	$ 10,466	22.7%	$ 740	7.1%
Sales and marketing	4,491	5.9%	2,518	5.5%	1,973	78.4%
General and administrative	10,272	13.4%	9,988	21.7%	284	2.8%
Total operating expenses	$ 25,969	33.9%	$ 22,972	49.8%	$ 2,997	13.0%

	Nine months ended September 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%

		(in thousands, except percentages)					
Research and development	$ 32,567	17.9%	$ 32,802	23.1%	$ (235)	(0.7)%
Sales and marketing	10,858	6.0%	7,444	5.2%	3,414	45.9%
General and administrative	31,520	17.3%	31,312	22.0%	208	0.7%
Total operating expenses	$ 74,945	41.1%	$ 71,558	50.3%	$ 3,387	4.7%

Research and development expense

Research and development expense increased by $0.7 million, or 7.1% for the three months ended September 30, 2020 as compared to the three months ended September 30, 2019. Research and development expense decreased by $0.2 million, or 0.7% for the nine months ended September 30, 2020 as compared to the nine months ended September 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. For the three months ended September 30, 2020, these increases were primarily due to an increase in personnel-related costs, and share-based compensation expense. For the nine months ended September 30, 2020, these increase were offset with a decrease in costs from R&D work orders and travel-related costs as a result of the COVID-19 pandemic.

Sales and marketing expense

Sales and marketing expense decreased by $2.0 million, or 78.4% for the three months ended September 30, 2020 as compared to the three months ended September 30, 2019. Sales and marketing expense increased by $3.4 million, or 45.9% for the nine months ended September 30, 2020 as compared to the nine months ended September 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 increased by $0.3 million, or 2.8% for the three months ended September 30, 2020 compared to the three months ended September 30, 2019. General and administrative expense increased by $0.2 million, or 0.7% for the nine months ended September 30, 2020 compared to the nine months ended September 30, 2019. These increases were primarily due to an increase in personnel-related costs, share-based compensation expense and insurance expense. These increases were partially offset by 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.

Other income (expense), net

	Three months ended September 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
		(in thousands, except percentages)				
Interest income	$ 26	(0.0)%	$ 347	0.8%	$ (321)	(92.5)%
Interest expense	(1,480)	(1.9)%	(1,517)	(3.3)%	37	(2.4)%
Other income (expense), net	866	(1.1)%	1,446	3.1%	(580)	(40.1)%
Total other income (expense), net	$ (588)	(0.8)%	$ 276	(0.6)%	$ (864)	(313.0)%

	Nine months ended September 30,					
	2020		2019		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
		(in thousands, except percentages)				
Interest income	$ 220	0.1%	$ 729	0.5%	$ (509)	(69.8)%
Interest expense	(4,424)	(2.4)%	(4,003)	(2.8)%	(421)	(10.5)%
Other income (expense), net	2,096	1.1%	1,742	1.2%	354	20.3%
Total other income (expense), net	$ (2,108)	(1.2)%	$ (1,532)	(1.1)%	$ (576)	(37.6)%

Interest income decreased by $0.3 million, or 92.5% for the three months ended September 30, 2020 compared to the three months ended September 30, 2019. Interest income decreased by $0.5 million, or 69.8% for the nine months ended September 30, 2020 compared to the nine months ended September 30, 2019. The changes are similar to expected rates of fluctuation with the interest rates and cash balances.

Interest expense decreased slightly for the three months ended September 30, 2020 compared to the three months ended September 30, 2019. Interest expense increased $0.4 million, or 10.5% for the nine months ended September 30, 2020 compared to the nine months ended September 30, 2019. This increase was due to higher average debt balances during the nine months period.

Other income (expense), net decreased by $0.6 million, or 40.0%, for the three months ended September 30, 2020 as compared to the three months ended September 30, 2019. Other income (expense), net increased by $0.3 million, or 20.4%, for the nine months ended September 30, 2020 as compared to the nine months ended September 30, 2019. These changes were 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 $1.3 million for the nine months ended September 30, 2020 and 2019, respectively. In addition, government subsidy income associated with COVID-19 pandemic was $1.3 million for the nine months ended September 30, 2020

Benefit (provision) for income taxes

	Three months ended September 30,			
	2020	2019	Change	
	(in thousands, except percentages)			
Benefit (provision) for income taxes	$ (2,249)	$ 1,940	(4,189)	(215.9)%

	Nine months ended September 30,			
	2020	2019	Change	
	(in thousands, except percentages)			
Benefit (provision) for income taxes	$ (7,224)	$ 7,605	(14,829)	(195.0)%

The Company's effective tax rate for the three months ended September 30, 2020 and 2019 was (30.69%) and 17.6%, respectively. For the three months ended September 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the change of the valuation allowance on federal, state, and Taiwan deferred tax assets ("DTA"), and the recording of a valuation allowance on China deferred tax assets. For the three months ended September 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 nine months ended September 30, 2020 and 2019 was (19.15%) and 19.9%, respectively. For the nine months ended September 30, 2020, the effective tax rate varied from the federal statutory rate of 21% primarily due to the change of the valuation allowance on federal, and state, deferred tax assets, and the recording of a valuation allowance on Taiwan and China deferred tax assets. For the nine months ended September 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.

Liquidity and Capital Resources

As of September 30, 2020, we had $23.7 million of unused borrowing capacity from all of our loan agreements. As of September 30, 2020, our cash, cash equivalents and restricted cash totaled $58.1 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 September 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
Raymond James & Associates, Inc.	July 2020	11.0942	689,936	7,501	153
Raymond James & Associates, Inc.	August 2020	13.6520	89,988	1,204	25

As of September 30, 2020, the total gross sales were $23.2 million and thus remaining amount of common stock we have available to sell under the ATM Offering is $31.8 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):

	Nine months ended September 30,	
	2020	**2019**
Net cash (used in) provided by operating activities	$ (29,905)	$ 1,411
Net cash used in investing activities	(15,075)	(26,997)
Net cash provided by financing activities	36,978	39,586
Effect of exchange rates on cash and cash equivalents	(958)	372
Net increase (decrease) in cash and cash equivalents	$ (8,960)	$ 14,372

Operating activities

For the nine months ended September 30, 2020, net cash used in operating activities was $29.9 million. Net cash used in operating activities consisted of our net loss of $45.0 million after exclusion of non-cash items of $39.2 million, cash decreased due to an increase in inventory of $27.3 million and accounts receivable from our customers of $16.8 million, offset by an increase in accounts payable to our vendors of $23.3 million.

For the nine months ended September 30, 2019, net cash provided by operating activities was $1.4 million. Net cash provided by operating activities consisted of our net loss of $30.6 million, adjustments for non-cash items of $26.3 million, a decrease in inventory of $3.2 million, a decrease in other current assets of $5.6 million and a decrease in accounts receivable from our customers of $0.8 million. These increases were offset by a decrease in accrued liabilities of $2.4 million and an increase in accounts payable to our vendors of $1.8 million.

Investing activities

For the nine months ended September 30, 2020, net cash used in investing activities was $15.1 million, mainly from the purchase of additional plant, machinery and equipment.

For the nine months ended September 30, 2019, net cash used in investing activities was $27.0 million, mainly for investment in the construction of our new factory in China, as well as the purchase of additional machinery and equipment used in production and R&D.

Financing activities

For the nine months ended September 30, 2020, our financing activities provided $37.0 million in cash. This increase in cash was due to $22.6 million of net proceeds from our At The Market (ATM) Offering, $6.2 million proceeds from PPP term loan, $6.3 million net proceeds from lines of credit and $6.7 million net proceeds from acceptances payable.

For the nine months ended September 30, 2019, our financing activities provided $39.6 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 $36.1 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 September 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 September 30, 2020, we had $23.7 million of unused borrowing capacity.

On March 5, 2019, we 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 September 30, 2020, construction of the building is complete, and approximately $26.2 million of this total cost has been paid as of reporting date, with the remaining portion due one year after final inspection. We anticipate additional expenses for building improvements to the factory and we are in the process of evaluating the timing of these expenditures and obtaining bids for any such work.

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 building improvement 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 September 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)	$ 58,856	$ 44,292	$ 14,564	$ —	$ —
Convertible senior notes(2)	94,286	4,025	8,050	82,211	—
Operating leases(3)	10,521	1,297	2,530	2,342	4,352
Financing leases	115	22	44	49	—
Total commitments	$ 163,778	$ 49,636	$ 25,188	$ 84,602	$ 4,352

(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 nine months ended September 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.

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 September 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.

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. On October 20, 2020, Plaintiffs filed motions with the Court seeking final approval of the class action settlement and 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 been set for November 24, 2020. 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 Defendants were required to file and serve their response or responsive pleading to the complaint by August 3, 2020. By Agreement of the parties, the Court subsequently extended the deadline for Defendants to file and serve their response or responsive pleading to November 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.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. See Part I, Item 1A, Risk Factors, of our Annual Report on Form 10-K for the year ended December 31, 2019 for a detailed discussion of the risk factors affecting our Company. As of September 30, 2020, there have been no material changes to those risk factors, except as 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 nine months ended September 30, 2020, our top ten customers represented 88.1%, 92.9%, 94.9%, 84.9% and 84.9% 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.

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 were delayed earlier in the year. 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 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.

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 September 30, 2020, we had approximately $149.9 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. The Company applied for forgiveness of the principal amount of the PPP Term Note on September 14, 2020 and currently expects the application to get approved. The forgiveness application is being reviewed by Truist Bank. Under current SBA guidelines, due to the size of the loan we anticipate a further review by the SBA upon completion of the review by Truist Bank. The timing of the completion of the review by Truist Bank and the subsequent review by SBA is currently uncertain. Until such time as the forgiveness assessment has been completed by the SBA, the Company will not be required to make any payments under the terms of the PPP Term Note.

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.

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.

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.

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.

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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*	Translation of Amendment to the Finance Lease Agreements, dated September 15, 2020, between Prime World International Holdings Ltd., and Chailease Finance Co., Ltd. (included as Exhibit 10.1 to the Registrants Current Report on Form 8-K filed with the Securities and Exchange Commission on September 18, 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 September 30, 2020, formatted in Inline XBRL.

* 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: November 5, 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: November 5, 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: November 5, 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 September 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 5th day of November, 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.