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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2022
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
Commission file number 0-16244

VEECO INSTRUMENTS INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**11-2989601**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
Terminal Drive **Plainview, New York**	**11803**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's telephone number, including area code:
(516) 677-0200

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	VECO	The NASDAQ Global Select 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, 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 August 1, 2022, there were 51,425,233 shares of the registrant's common stock outstanding.

VEECO INSTRUMENTS INC.

INDEX

Safe Harbor Statement

This quarterly report on Form 10-Q (the "Report") contains 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. Discussions containing such forward-looking statements may be found in Part I - Items 1, 2, and 3 hereof, as well as within this Report generally. In addition, when used in this Report, the words "believes," "anticipates," "expects," "estimates," "targets," "plans," "intends," "will," and similar expressions related to the future are intended to identify forward-looking statements. All forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from projected results.

In addition, the preparation of financial statements in conformity with U.S. Generally Accepted Accounting Principles ("U.S. GAAP") requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Although these estimates and assumptions are based on knowledge of current events, including the potential impact of the COVID-19 pandemic on our business, and planned actions to be undertaken in the future, they may ultimately differ from actual results. Operating results for the three and six months ended June 30, 2022 are not necessarily indicative of the results that may be expected for the year ending December 31, 2022. All estimates and assumptions are subject to a number of risks and uncertainties that could cause actual results to differ materially from these estimates and assumptions.

The risks and uncertainties of Veeco Instruments Inc. (together with its consolidated subsidiaries, "Veeco," the "Company," "we," "us," and "our," unless the context indicates otherwise) include, without limitation, those set forth under the heading "Risk Factors" in Part 1, Item 1A of our 2021 Form 10-K, those included within Item 1A of our quarterly report on Form 10-Q for the quarter ending March 31, 2022, and the following:

Risks Related to Our Business, Finance and Operations

- The effects of the COVID-19 pandemic have strained and have negatively impacted our business and operations, and the duration and extent to which COVID-19 may impact our future results of operations and overall financial performance remains uncertain;

- Unfavorable market conditions, coupled with ongoing supply chain challenges and inflationary pressures, have adversely affected, and may continue to adversely affect, our operating results;

- The timing of our orders, shipments, and revenue recognition may cause our quarterly operating results to fluctuate significantly;

- Our sales cycle is long and unpredictable;

- Our backlog is subject to customer cancellation or modification which could result in decreased sales, increased inventory obsolescence, and liabilities to our suppliers for products no longer needed;

- We may be required to take impairment charges on assets;

- We are exposed to risks associated with business combinations, acquisitions, strategic investments and divestitures;

- We have adopted certain measures that may have anti-takeover effects which may make an acquisition of our Company by another company more difficult;

- Our current debt facilities, including our 2.70% Convertible Senior Notes due 2023 (the "2023 Notes"), our 3.50% Convertible Senior Notes due 2025 (the "2025 Notes"), or our 3.75% Convertible Senior Notes due 2027 (the "2027 Notes") (the 2023 Notes, 2025 Notes, and 2027 Notes, together, the "Notes"), and our revolving credit facility (the "Credit Facility"), may contain certain restrictions, covenants and repurchase provisions that may limit our ability to raise the funds necessary to meet our working capital needs, which may include the cash conversion of the Notes or repurchase of the Notes for cash upon a fundamental change;

- The conditional conversion features of the 2023 Notes, 2025 Notes, and 2027 Notes, if triggered, may materially and adversely affect our financial condition and operating results;
- The accounting method for convertible debt securities that may be settled in cash, such as the Notes, could have a material effect on our reported financial results;
- Issuance of our common stock, if any, upon conversion of the Notes, as well as the capped call transactions and the hedging activities of the option counterparties, may impair or reduce our ability to utilize our net operating loss carryforwards or our research and development credits carryforwards in the future;
- The capped call transactions may affect the value of the 2027 Notes and our common stock;

Risks Associated with Operating a Global Business

- We are exposed to risks of operating businesses outside the United States;
- Changes in U.S. trade policy and export controls and ongoing trade disputes between the U.S. and China have adversely affected, and may continue to adversely affect, our business, results of operations, and financial condition;
- We may be unable to obtain required export licenses for the sale of our products;
- We are exposed to various risks associated with global regulatory requirements;
- We may be exposed to liabilities under the Foreign Corrupt Practices Act and other similar laws;
- Our operating results may be adversely affected by tightening credit markets;
- We are subject to foreign currency exchange risks;

Risks Related to Intellectual Property and Cybersecurity

- Disruptions in our information technology systems or data security incidents could result in significant financial, legal, regulatory, business, and reputational harm to us;
- We may be unable to effectively enforce and protect our intellectual property rights;
- We may be subject to claims of intellectual property infringement by others;

Risks Associated with Our Industry

- We face significant competition;
- We operate in industries characterized by rapid technological change;
- Certain of our sales are dependent on the demand for consumer electronic products and automobiles, which can experience significant volatility;
- We have a concentrated customer base, located primarily in a limited number of regions, which operates in highly concentrated industries;

- The cyclicality of the industries we serve directly affects our business;
- Our failure to estimate customer demand accurately could result in inventory obsolescence, liabilities to our suppliers for products no longer needed, and manufacturing interruptions or delays which could affect our ability to meet customer demand;
- We rely on a limited number of suppliers, some of whom are our sole source for particular components;
- Our failure to successfully manage our outsourcing activities or failure of our outsourcing partners to perform as anticipated could adversely affect our results of operations;

General Risk Factors

- The price of our common shares is volatile and could decrease;
- We are subject to risks of non-compliance with environmental, health, and safety regulations and sustainability requirements;
- Our inability to attract, retain, and motivate employees could have a material adverse effect on our business; and
- Changes in accounting pronouncements or taxation rules, practices, or rates may adversely affect our financial results.

Consequently, such forward looking statements and estimates should be regarded solely as the current plans and beliefs of Veeco. We do not undertake any obligation to update any forward looking statements to reflect future events or circumstances after the date of such statements.

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements

Veeco Instruments Inc. and Subsidiaries
Consolidated Balance Sheets
(in thousands, except share amounts)

	June 30, 2022	December 31, 2021
Assets	(unaudited)	
Current assets:		
Cash and cash equivalents	$ 116,916	$ 119,747
Restricted cash	727	725
Short-term investments	113,159	104,181
Accounts receivable, net	126,881	109,609
Contract assets	17,367	18,293
Inventories	176,491	170,858
Prepaid expenses and other current assets	17,743	25,974
Total current assets	569,284	549,387
Property, plant, and equipment, net	105,031	99,743
Operating lease right-of-use assets	26,405	28,813
Intangible assets, net	28,896	33,905
Goodwill	181,943	181,943
Deferred income taxes	1,639	1,639
Other assets	3,454	3,546
Total assets	$ 916,652	$ 898,976
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 47,074	$ 44,456
Accrued expenses and other current liabilities	56,918	79,752
Customer deposits and deferred revenue	74,560	63,136
Income taxes payable	1,598	1,860
Current portion of long-term debt	20,120	—
Total current liabilities	200,270	189,204
Deferred income taxes	4,774	4,792
Long-term debt	254,055	229,438
Long-term operating lease liabilities	31,772	32,834
Other liabilities	5,044	5,080
Total liabilities	495,915	461,348
Stockholders' equity:		
Preferred stock, $0.01 par value; 500,000 shares authorized; no shares issued and outstanding.	—	—
Common stock, $0.01 par value; 120,000,000 shares authorized; 51,425,233 shares issued and outstanding at June 30, 2022 and 50,652,864 shares issued and outstanding at December 31, 2021	515	507
Additional paid-in capital	1,065,590	1,116,921
Accumulated deficit	(645,757)	(681,283)
Accumulated other comprehensive income	389	1,483
Total stockholders' equity	420,737	437,628
Total liabilities and stockholders' equity	$ 916,652	$ 898,976

See accompanying Notes to the Consolidated Financial Statements.

Veeco Instruments Inc. and Subsidiaries
Consolidated Statements of Operations
(in thousands, except per share amounts)
(unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2022	2021	2022	2021
Net sales	$ 163,999	$ 146,344	$ 320,425	$ 280,059
Cost of sales	99,732	86,178	190,146	164,978
Gross profit	64,267	60,166	130,279	115,081
Operating expenses, net:				
Research and development	26,016	22,553	50,133	44,398
Selling, general, and administrative	22,950	21,466	45,844	41,722
Amortization of intangible assets	2,505	2,976	5,009	6,330
Other operating expense (income), net	(27)	(81)	(47)	(36)
Total operating expenses, net	51,444	46,914	100,939	92,414
Operating income	12,823	13,252	29,340	22,667
Interest income	213	235	302	370
Interest expense	(2,848)	(6,820)	(5,740)	(13,578)
Income before income taxes	10,188	6,667	23,902	9,459
Income tax expense (benefit)	533	319	917	617
Net income	$ 9,655	$ 6,348	$ 22,985	$ 8,842
Income per common share:				
Basic	$ 0.19	$ 0.13	$ 0.46	$ 0.18
Diluted	$ 0.18	$ 0.12	$ 0.43	$ 0.17
Weighted average number of shares:				
Basic	49,697	48,743	49,702	48,758
Diluted	59,455	53,942	59,521	53,539

See accompanying Notes to the Consolidated Financial Statements.

Veeco Instruments Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income
(in thousands)
(unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2022	2021	2022	2021
Net income	$ 9,655	$ 6,348	$ 22,985	$ 8,842
Other comprehensive income (loss), net of tax:				
Unrealized gain (loss) on available-for-sale securities	(224)	(15)	(1,043)	(4)
Change in currency translation adjustments	(48)	(9)	(51)	(39)
Total other comprehensive income (loss), net of tax	(272)	(24)	(1,094)	(43)
Total comprehensive income	$ 9,383	$ 6,324	$ 21,891	$ 8,799

See accompanying Notes to the Consolidated Financial Statements.

Veeco Instruments Inc. and Subsidiaries
Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Six months ended June 30, 2022	Six months ended June 30, 2021
Cash Flows from Operating Activities		
Net income	$ 22,985	$ 8,842
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation and amortization	12,749	13,189
Non-cash interest expense	477	7,100
Deferred income taxes	(18)	17
Share-based compensation expense	10,759	7,605
Changes in operating assets and liabilities:		
Accounts receivable and contract assets	(16,346)	(21,158)
Inventories	(5,873)	(18,298)
Prepaid expenses and other current assets	8,231	4,489
Accounts payable and accrued expenses	(17,613)	14,046
Customer deposits and deferred revenue	11,424	3,334
Income taxes receivable and payable, net	(263)	449
Other, net	1,657	1,114
Net cash provided by (used in) operating activities	28,169	20,729
Cash Flows from Investing Activities		
Capital expenditures	(15,420)	(9,082)
Proceeds from the sale of investments	23,335	130,398
Payments for purchases of investments	(33,876)	(156,020)
Net cash provided by (used in) investing activities	(25,961)	(34,704)
Cash Flows from Financing Activities		
Proceeds (net of tax withholdings) from option exercises and employee stock purchase plan	2,129	1,865
Restricted stock tax withholdings	(7,115)	(2,747)
Net cash provided by (used in) financing activities	(4,986)	(882)
Effect of exchange rate changes on cash and cash equivalents	(51)	(39)
Net increase (decrease) in cash, cash equivalents, and restricted cash	(2,829)	(14,896)
Cash, cash equivalents, and restricted cash - beginning of period	120,472	130,283
Cash, cash equivalents, and restricted cash - end of period	$ 117,643	$ 115,387
Supplemental Disclosure of Cash Flow Information		
Interest paid	$ 5,037	$ 4,160
Income taxes paid (refunds received)	1,083	(196)
Non-cash activities		
Capital expenditures included in accounts payable and accrued expenses	6,464	15,400
Net transfer of inventory to property, plant and equipment	237	—
Right-of-use assets obtained in exchange for lease obligations	258	20,353

See accompanying Notes to the Consolidated Financial Statements.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements
(unaudited)

Note 1 — Basis of Presentation

The accompanying unaudited Consolidated Financial Statements of Veeco have been prepared in accordance with U.S. GAAP as defined in Financial Accounting Standards Board ("FASB") Accounting Standards Codification 270 for interim financial information and with the instructions to Rule 10-01 of Securities and Exchange Commission Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements as the interim information is an update of the information that was presented in Veeco's most recent annual financial statements. For further information, refer to Veeco's Consolidated Financial Statements and Notes thereto included in the Annual Report on Form 10-K for the year ended December 31, 2021 ("2021 Form 10-K"). In the opinion of management, all adjustments considered necessary for a fair presentation have been included. All such adjustments are of a normal, recurring nature.

Veeco reports interim quarters on a 13-week basis ending on the last Sunday of each quarter. The fourth quarter always ends on the last day of the calendar year, December 31. The 2022 interim quarters end on April 3, July 3, and October 2, and the 2021 interim quarters ended on April 4, July 4, and October 3. These interim quarters are reported as March 31, June 30, and September 30 in Veeco's interim consolidated financial statements.

The preparation of financial statements in conformity with U.S GAAP requires the Company's management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Although these estimates are based on management's knowledge of current events and actions it may undertake in the future, actual results may differ from these estimates. In particular, the COVID-19 pandemic has adversely impacted and is likely to further adversely impact the Company's business and markets, including the Company's workforce and operations and the operations of the Company's customers, suppliers, and business partners. The full extent to which the pandemic will directly or indirectly impact the Company's business, results of operations and financial condition, including sales, expenses, manufacturing, research and development costs, reserves and allowances, fair value measurements, and asset impairment charges, will depend on future developments that are highly uncertain and difficult to predict. These developments include, but are not limited to, the duration and spread of the outbreak, its severity, the actions to contain the virus or address its impact, governmental actions to contain the spread of the pandemic and respond to the reduction in global economic activity, and how quickly and to what extent normal economic and operating conditions can resume.

Revenue Recognition

Revenue is recognized upon the transfer of control of the promised product or service to the customer in an amount that reflects the consideration the Company expects to receive in exchange for such product or service. The Company's contracts with customers generally do not contain variable consideration. In the rare instances where variable consideration is included, the Company estimates the amount of variable consideration and determines what portion of that, if any, has a high probability of significant subsequent revenue reversal, and if so, that amount is excluded from the transaction price. The Company's contracts with customers frequently contain multiple deliverables, such as systems, upgrades, components, spare parts, installation, maintenance, and service plans. Judgment is required to properly identify the performance obligations within a contract and to determine how the revenue should be allocated among the performance obligations. The Company also evaluates whether multiple transactions with the same customer or related parties should be considered part of a single contract based on an assessment of whether the contracts or agreements are negotiated or executed within a short time frame of each other or if there are indicators that the contracts are negotiated in contemplation of one another.

When there are separate units of accounting, the Company allocates revenue to each performance obligation on a relative stand-alone selling price basis. The stand-alone selling prices are determined based on the prices at which the Company separately sells the systems, upgrades, components, spare parts, installation, maintenance, and service plans. For items that are not sold separately, the Company estimates stand-alone selling prices generally using an expected cost plus margin approach.

Most of the Company’s revenue is recognized at a point in time when the performance obligation is satisfied. The Company considers many facts when evaluating each of its sales arrangements to determine the timing of revenue recognition, including its contractual obligations and the nature of the customer’s post-delivery acceptance provisions. The Company’s system sales arrangements, including certain upgrades, generally include field acceptance provisions that may include functional or mechanical test procedures. For many of these arrangements, a customer source inspection of the system is performed in the Company’s facility, test data is sent to the customer documenting that the system is functioning to the agreed upon specifications prior to delivery, or other quality assurance testing is performed internally to ensure system functionality prior to shipment. Historically, such source inspection or test data replicates the field acceptance provisions that are performed at the customer’s site prior to final acceptance of the system. When the Company objectively demonstrates that the criteria specified in the contractual acceptance provisions are achieved prior to delivery either through customer testing or the Company’s historical experience of its tools meeting specifications, transfer of control of the product to the customer is considered to have occurred and revenue is recognized upon system delivery since there is no substantive contingency remaining related to the acceptance provisions at that date. For new products, new applications of existing products, or for products with substantive customer acceptance provisions where the Company cannot objectively demonstrate that the criteria specified in the contractual acceptance provisions have been achieved prior to delivery, revenue and the associated costs are deferred. The Company recognizes such revenue and costs upon obtaining objective evidence that the acceptance provisions can be achieved, assuming all other revenue recognition criteria have been met.

In certain cases the Company’s contracts with customers contain a billing retention, which is billed by the Company and payable by the customer when field acceptance provisions are completed. Revenue recognized in advance of the amount that has been billed is recorded as a contract asset on the Consolidated Balance Sheets.

The Company recognizes revenue related to maintenance and service contracts over time based upon the respective contract term. Installation revenue is recognized over time as the installation services are performed. The Company recognizes revenue from the sales of components, spare parts, and specified service engagements at a point in time, which is typically consistent with the time of delivery in accordance with the terms of the applicable sales arrangement.

The Company may receive customer deposits on system transactions. The timing of the transfer of goods or services related to the deposits is either at the discretion of the customer or generally expected to be within one year from the deposit receipt. As such, the Company does not adjust transaction prices for the time value of money. Incremental direct costs incurred related to the acquisition of a customer contract, such as sales commissions, are expensed as incurred since the expected amortization period is one year or less.

The Company has elected to treat shipping and handling costs as a fulfillment activity, and the Company includes such costs in cost of sales when the Company recognizes revenue for the related goods. Taxes assessed by governmental authorities that are collected by the Company from a customer are excluded from revenue.

Inventories

Inventories are stated at the lower of cost or net realizable value, with cost determined on a first-in, first-out basis. Each quarter the Company assesses the valuation and recoverability of all inventories: materials (raw materials, spare parts, and service inventory); work-in-process; and finished goods. Obsolete inventory or inventory in excess of management’s estimated usage requirement is written down to its estimated net realizable value if less than cost. The Company evaluates usage requirements by analyzing historical usage, anticipated demand, alternative uses of materials, and other qualitative factors. Unanticipated changes in demand for the Company’s products may require a write down of inventory, which would be reflected in cost of sales in the period the revision is made. Inventory acquired as part of a business combination is recorded at fair value on the date of acquisition.

Recently Adopted Accounting Standards

The Company adopted ASU 2020-06: *Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity* on January 1, 2022, using the modified retrospective method for all financial instruments that are outstanding as of the adoption date. This standard simplifies the accounting for convertible debt instruments by removing the separation models for convertible debt with a cash conversion feature, as well as convertible instruments with a beneficial conversion feature. As a result, entities will account for a convertible debt instrument wholly as debt, unless certain other conditions are met. The elimination of these models will reduce non-cash interest expense for entities that have issued a convertible instrument that was within the scope of those models before the adoption of ASU 2020-06, such as the Company's 2023 Notes, 2025 Notes, and 2027 Notes. Additionally, ASU 2020-06 requires the application of the if-converted method for calculating diluted earnings per share, and precludes the use of the treasury stock method for certain debt instruments, such as the Company's 2023 Notes, 2025 Notes, and 2027 Notes.

The adoption of ASU 2020-06 resulted in the following adjustments to the Consolidated Balance Sheets:

	December 31, 2021	Adoption of ASU 2020-06	January 1, 2022
		(in thousands)	
Balance Sheet line item:			
Long-term debt	$ 229,438	$ 44,260	$ 273,698
Additional paid-in capital	1,116,921	(56,801)	1,060,120
Accumulated deficit	(681,283)	12,541	(668,742)

The adoption of ASU 2020-06 resulted in the following adjustments to the Company's calculations of basic and diluted income per share for the three and six months ended June 30, 2022:

	Three months ended June 30, 2022			Six months ended June 30, 2022		
	Under ASU 2020-06	Under legacy accounting	Difference	Under ASU 2020-06	Under legacy accounting	Difference
Income per common share:						
Basic income per common share	$ 0.19	$ 0.15	$ 0.04	$ 0.46	$ 0.37	$ 0.09
Diluted income per common share	0.18	0.14	0.04	0.43	0.33	0.10

The adoption of ASU 2020-06 did not materially impact the Company's cash flows or compliance with debt covenants.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

Note 2 — Income Per Common Share

Basic income per share is calculated by dividing net income by the weighted average number of shares outstanding during the period. Diluted income per share is calculated by dividing net income available to common shareholders by the weighted average number of shares used to calculate basic income per share plus the weighted average number of common share equivalents outstanding during the period. The dilutive effect of outstanding options to purchase common stock and share-based awards is considered in diluted income per share by application of the treasury stock method. The dilutive effect of performance share units is included in diluted income per common share if the performance targets have been achieved, or would have been achieved if the reporting date was the end of the contingency period. Upon the adoption of ASU 2020-06 on January 1, 2022, the Company includes the dilutive effect of shares issuable upon conversion of its Notes in the calculation of diluted income per share using the if-converted method. Prior to the adoption of ASU 2020-06, based on the Company's ability and intent to settle the principal amount of its convertible senior notes in cash, and the excess of the principal portion in shares of its common stock, the Company accounted for the conversion spread using the treasury stock method, and the shares issuable upon conversion of the Notes were not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Notes exceeds their principal amount and if the effect would be dilutive. The computations of basic and diluted income per share for the three months and six months ended June 30, 2022 and 2021 are as follows:

	Three months ended June 30,		Six months ended June 30,	
	2022	2021	2022	2021
	(in thousands, except per share amounts)			
Numerator:				
Net income	$ 9,655	$ 6,348	$ 22,985	$ 8,842
Interest expense associated with convertible notes	1,273	—	2,546	—
Net income available to common shareholders	$ 10,928	$ 6,348	$ 25,531	$ 8,842
Denominator:				
Basic weighted average shares outstanding	49,697	48,743	49,702	48,758
Effect of potentially dilutive share-based awards	816	1,707	877	1,553
Dilutive effect of convertible notes	8,942	3,492	8,942	3,228
Diluted weighted average shares outstanding	59,455	53,942	59,521	53,539
Net income per common share:				
Basic	$ 0.19	$ 0.13	$ 0.46	$ 0.18
Diluted	$ 0.18	$ 0.12	$ 0.43	$ 0.17
Potentially dilutive shares excluded from the diluted calculation as their effect would be antidilutive	987	449	645	452
Maximum potential shares to be issued for settlement of the convertible notes excluded from the diluted calculation as their effect would be antidilutive	6,025	8,811	6,025	8,811

Note 3 — Assets

Investments

Short-term investments are generally classified as available-for-sale and reported at fair value, with unrealized gains and losses, net of tax, presented as a separate component of stockholders' equity under the caption "Accumulated other comprehensive income" in the Consolidated Balance Sheets. These securities may include U.S. treasuries, government agency securities, corporate debt, and commercial paper, all with maturities of greater than three months when

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

purchased. All realized gains and losses and unrealized losses resulting from declines in fair value that are other than temporary are included in “Other operating expense (income), net” in the Consolidated Statements of Operations.

Fair value is the price that would be received for an asset or the amount paid to transfer a liability in an orderly transaction between market participants. Veeco classifies certain assets based on the following fair value hierarchy:

Level 1: Quoted prices in active markets that are unadjusted and accessible at the measurement date for identical, unrestricted assets or liabilities;

Level 2: Quoted prices for identical assets and liabilities in markets that are not active, quoted prices for similar assets and liabilities in active markets or financial instruments for which significant inputs are observable, either directly or indirectly; and

Level 3: Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

A financial instrument’s level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Veeco has evaluated the estimated fair value of financial instruments using available market information and valuations as provided by third-party sources. The use of different market assumptions or estimation methodologies could have a significant effect on the estimated fair value amounts.

The following table presents the portion of Veeco’s assets that were measured at fair value on a recurring basis at June 30, 2022 and December 31, 2021:

	Level 1	Level 2	Level 3	Total
		(in thousands)		
June 30, 2022				
Cash equivalents				
Certificate of deposits and time deposits	$ 46,720	$ —	$ —	$ 46,720
Money market cash	319	—	—	319
Total	$ 47,039	$ —	$ —	$ 47,039
Short-term investments				
U.S. treasuries	$ 57,008	$ —	$ —	$ 57,008
Government agency securities	—	15,183	—	15,183
Corporate debt	—	39,082	—	39,082
Commercial paper	—	1,886	—	1,886
Total	$ 57,008	$ 56,151	$ —	$ 113,159
December 31, 2021				
Cash equivalents				
Certificate of deposits and time deposits	$ 41,544	$ —	$ —	$ 41,544
Money market cash	121	—	—	121
Total	$ 41,665	$ —	$ —	$ 41,665
Short-term investments				
U.S. treasuries	$ 51,095	$ —	$ —	$ 51,095
Government agency securities	—	12,052	—	12,052
Corporate debt	—	40,035	—	40,035
Commercial paper	—	999	—	999
Total	$ 51,095	$ 53,086	$ —	$ 104,181

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

There were no transfers between fair value measurement levels during the three months and six months ended June 30, 2022.

At June 30, 2022 and December 31, 2021, the amortized cost and fair value of available-for-sale securities consist of:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
		(in thousands)		
June 30, 2022				
U.S. treasuries	$ 57,697	$ —	$ (689)	$ 57,008
Government agency securities	15,291	—	(108)	15,183
Corporate debt	39,659	—	(577)	39,082
Commercial paper	1,886	—	—	1,886
Total	$ 114,533	$ —	$ (1,374)	$ 113,159
December 31, 2021				
U.S. treasuries	$ 51,269	$ —	$ (174)	$ 51,095
Government agency securities	12,075	—	(23)	12,052
Corporate debt	40,169	—	(134)	40,035
Commercial paper	999	—	—	999
Total	$ 104,512	$ —	$ (331)	$ 104,181

Available-for-sale securities in a loss position at June 30, 2022 and December 31, 2021 consist of:

	June 30, 2022				December 31, 2021	
	Continuous Loss Position for Less than 12 Months		Continuous Loss Position for 12 Months or More		Continuous Loss Position for Less than 12 Months	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
			(in thousands)			
U.S. treasuries	$ 57,008	$ (689)	$ —	$ —	$ 51,095	$ (174)
Government agency securities	12,585	(100)	2,598	(8)	12,052	(23)
Corporate debt	36,313	(508)	2,769	(69)	40,035	(134)
Total	$ 105,906	$ (1,297)	$ 5,367	$ (77)	$ 103,182	$ (331)

At December 31, 2021, there were no short-term investments that had been in a continuous loss position for more than 12 months.

The contractual maturities of securities classified as available-for-sale at June 30, 2022 were as follows:

	June 30, 2022	
	Amortized Cost	Estimated Fair Value
	(in thousands)	
Due in one year or less	$ 102,309	$ 101,262
Due after one year through two years	12,224	11,897
Total	$ 114,533	$ 113,159

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. There were no realized gains or losses for the six months ended June 30, 2022 and 2021.

Accounts Receivable

Accounts receivable is presented net of an allowance for doubtful accounts of $0.7 million at June 30, 2022 and December 31, 2021. The Company considered its current expectations of future economic conditions, including the impact of COVID-19, when estimating its allowance for doubtful accounts.

Inventories

Inventories at June 30, 2022 and December 31, 2021 consist of the following:

	June 30, 2022	December 31, 2021
	(in thousands)	
Materials	$ 105,262	$ 96,027
Work-in-process	63,370	54,128
Finished goods	7,859	20,703
Total	$ 176,491	$ 170,858

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets primarily consist of supplier deposits, prepaid value-added tax, lease deposits, prepaid insurance, prepaid licenses, and other receivables. In addition, Veeco had deposits with its suppliers of $7.4 million and $3.9 million at June 30, 2022 and December 31, 2021, respectively.

Property, Plant, and Equipment

Property, plant, and equipment at June 30, 2022 and December 31, 2021 consist of the following:

	June 30, 2022	December 31, 2021
	(in thousands)	
Land	$ 5,061	$ 5,061
Building and improvements	63,973	63,946
Machinery and equipment (1)	153,794	145,656
Leasehold improvements	50,404	45,979
Gross property, plant, and equipment	273,232	260,642
Less: accumulated depreciation and amortization	168,201	160,899
Net property, plant, and equipment	$ 105,031	$ 99,743

(1) Machinery and equipment also includes software, furniture and fixtures

For the three and six months ended June 30, 2022, depreciation expense was $4.0 million and $7.7 million, respectively, and $3.5 million and $6.9 million, respectively, for the comparable 2021 periods.

Goodwill

Goodwill represents the future economic benefits arising from assets acquired in a business combination that are not individually identified and separately recognized. The Company continues to assess potential triggering events related to

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

the value of its goodwill and concluded that there were no indicators of impairment during the six months ended June 30, 2022.

Intangible Assets

Intangible assets consist of purchased technology, customer relationships, patents, trademarks and tradenames, and backlog, and are initially recorded at fair value. Long-lived intangible assets are amortized over their estimated useful lives in a method reflecting the pattern in which the economic benefits are consumed or amortized on a straight-line basis if such pattern cannot be reliably determined. The Company continues to assess potential triggering events related to the value of its intangible assets and concluded that there were no indicators of impairment during the three and six months ended June 30, 2022.

The components of purchased intangible assets were as follows:

	June 30, 2022			December 31, 2021		
	Gross Carrying Amount	Accumulated Amortization and Impairment	Net Amount	Gross Carrying Amount	Accumulated Amortization and Impairment	Net Amount
	(in thousands)					
Technology	$ 327,908	$ 313,735	$ 14,173	$ 327,908	$ 310,551	$ 17,357
Customer relationships	146,465	134,192	12,273	146,465	132,970	13,495
Trademarks and tradenames	30,910	28,460	2,450	30,910	27,857	3,053
Other	3,686	3,686	—	3,686	3,686	—
Total	$ 508,969	$ 480,073	$ 28,896	$ 508,969	$ 475,064	$ 33,905

Other intangible assets primarily consist of patents, licenses, and backlog.

Note 4 — Liabilities

Accrued Expenses and Other Current Liabilities

The components of accrued expenses and other current liabilities at June 30, 2022 and December 31, 2021 consist of:

	June 30, 2022	December 31, 2021
	(in thousands)	
Payroll and related benefits	$ 26,644	$ 35,712
Warranty	8,540	7,878
Operating lease liabilities	4,110	4,437
Interest	2,757	2,757
Professional fees	2,862	1,467
Legal settlement	300	15,000
Sales, use, and other taxes	4,403	4,889
Other	7,302	7,612
Total	$ 56,918	$ 79,752

Warranty

Warranties are typically valid for one year from the date of system final acceptance. The Company estimates the costs that may be incurred under the warranty which are determined by analyzing specific product and historical configuration

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

statistics and regional warranty support costs and are affected by product failure rates, material usage, and labor costs incurred in correcting product failures during the warranty period. Unforeseen component failures or exceptional component performance can also result in changes to warranty costs. Changes in product warranty reserves for the six months ended June 30, 2022 include:

		(in thousands)
Balance - December 31, 2021	$	7,878
Warranties issued		4,109
Consumption of reserves		(3,294)
Changes in estimate		(153)
Balance - June 30, 2022	$	8,540

Customer Deposits and Deferred Revenue

Customer deposits totaled $57.8 million and $46.9 million at June 30, 2022 and December 31, 2021, respectively. Deferred revenue represents amounts billed, other than deposits, in excess of the revenue that can be recognized on a particular contract at the balance sheet date. Changes in deferred revenue were as follows:

		(in thousands)
Balance - December 31, 2021	$	16,276
Deferral of revenue		5,284
Recognition of unearned revenue		(4,747)
Balance - June 30, 2022	$	16,813

As of June 30, 2022, the Company has approximately $40.5 million of remaining performance obligations on contracts with an original estimated duration of one year or more, of which approximately 18% is expected to be recognized within one year, with the remaining amounts expected to be recognized between one to three years. The Company has elected to exclude disclosures regarding remaining performance obligations that have an original expected duration of one year or less.

Convertible Senior Notes

2023 Notes

On January 10, 2017, the Company issued $345.0 million of 2.70% convertible senior unsecured notes due 2023 (the “2023 Notes”). The Company received net proceeds, after deducting underwriting discounts and fees and expenses payable by the Company, of approximately $335.8 million. The 2023 Notes bear interest at a rate of 2.70% per year, payable semiannually in arrears on January 15 and July 15 of each year, commencing on July 15, 2017. The 2023 Notes mature on January 15, 2023, unless earlier purchased by the Company, redeemed, or converted.

On May 18, 2020, in connection with the completion of a private offering of $125.0 million aggregate principal amount of 3.75% convertible senior notes due 2027 described below, the Company repurchased and retired approximately $88.3 million in aggregate principal amount of its outstanding 2023 Notes, with a carrying amount of $78.1 million, for approximately $81.2 million of cash.

Additionally, on November 11, 2020, the Company entered into a privately negotiated exchange agreement with a holder of its outstanding 2023 Notes, under which the Company agreed to retire $125.0 million in aggregate original principal amount of the 2023 Notes, with a carrying amount of $113.1 million, in exchange for the issuance of $132.5 million in aggregate principal amount of new 3.50% convertible senior notes due 2025 described below, which had a fair value that approximated the principal amount of notes issued.

Finally, on November 5, 2021, the Company entered into a privately negotiated note purchase agreement with a holder of its outstanding 2023 Notes, under which the Company agreed to repurchase and retire approximately $111.5 million in aggregate original principal amount of the 2023 Notes, with a carrying amount of $105.5 million, for cash consideration of approximately $115.6 million, and approximately $1.0 million of accrued and unpaid interest.

2025 Notes

On November 17, 2020, as part of the privately negotiated exchange agreement described above, the Company issued $132.5 million of 3.50% convertible senior notes due 2025 (the "2025 Notes"). The 2025 Notes bear interest at a rate of 3.50% per year, payable semiannually in arrears on January 15 and July 15 of each year, commencing on July 15, 2021. The 2025 Notes mature on January 15, 2025, unless earlier purchased by the Company, redeemed, or converted.

2027 Notes

On May 18, 2020, the Company completed a private offering of $125.0 million of 3.75% convertible senior notes due 2027 (the "2027 Notes"). The Company received net proceeds of approximately $121.9 million, after deducting underwriting discounts and fees and expenses payable by the Company. Additionally, the Company used approximately $10.3 million of cash to purchase capped calls, discussed below. The 2027 Notes bear interest at a rate of 3.75% per year, payable semiannually in arrears on June 1 and December 1 of each year, commencing on December 1, 2020. The 2027 Notes mature on June 1, 2027, unless earlier purchased by the Company, redeemed, or converted.

The 2023 Notes, 2025 Notes, and 2027 Notes (collectively, the "Notes") are unsecured obligations of Veeco and rank senior in right of payment to any of Veeco's subordinated indebtedness; equal in right of payment to all of Veeco's unsecured indebtedness that is not subordinated; effectively subordinated in right of payment to any of Veeco's secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally subordinated to all indebtedness and other liabilities (including trade payables) of Veeco's subsidiaries.

The Notes are convertible at the option of the holders upon the satisfaction of specified conditions and during certain periods as described below. The initial conversion rates are 24.9800, 41.6667, and 71.5372 shares of the Company's common stock per $1,000 principal amount of the 2023 Notes, 2025 Notes, and 2027 Notes, respectively, representing initial effective conversion prices of $40.03, $24.00, and $13.98 per share of common stock, respectively. The conversion rates may be subject to adjustment upon the occurrence of certain specified events.

Holders may convert all or any portion of their notes, in multiples of one thousand dollar principal amount, at their option at any time prior to the close of business on the business day immediately preceding October 15, 2022 with respect to the 2023 Notes, October 15, 2024 with respect to the 2025 Notes, and October 1, 2026 with respect to the 2027 Notes, only under the following circumstances:

(i) During any calendar quarter (and only during such calendar quarter), if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;

(ii) During the five consecutive business day period after any five consecutive trading day period (the "measurement period") in which the trading price per one thousand dollar principal amount of Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of Veeco's common stock and the conversion rate on each such trading day;

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

(iii) If the Company calls any or all of applicable series of the Notes for redemption at any time prior to the close of business on the scheduled trading day immediately preceding the redemption date; or

(iv) Upon the occurrence of specified corporate events.

For the calendar quarter ended June 30, 2022, the last reported sales price of common stock during the 30 consecutive trading days, based on the criteria outlined in (i) above, was greater than 130% of the conversion price of the 2027 Notes, and as such the 2027 Notes are convertible by the holders until September 30, 2022.

Holders may convert their notes at any time, regardless of the foregoing circumstances, on or after October 15, 2022 with respect to the 2023 Notes, October 15, 2024 with respect to the 2025 Notes, and October 1, 2026 with respect to the 2027 Notes, until the close of business on the business day immediately preceding the respective maturity date.

Accounting for the Notes after the adoption of ASU 2020-06

The Company adopted ASU 2020-06 on January 1, 2022 as further described in Note 1, *"*Basis of Presentation". Following the adoption of ASU 2020-06, the Notes are recorded as a single unit within liabilities in the consolidated balance sheets as the conversion features within the Notes are not derivatives that require bifurcation and the Notes do not involve a substantial premium. Transaction costs of $9.2 million, $1.9 million, and $3.1 million incurred in connection with the issuance of the 2023 Notes, 2025 Notes, and 2027 Notes, respectively, were recorded as direct deductions from the related debt liabilities and recognized as non-cash interest expense using the effective interest method over the expected terms of the Notes.

Accounting for the Notes prior to the adoption of ASU 2020-06

Upon conversion by the holders, the Company may elect to settle such conversion in shares of its common stock, cash, or a combination thereof. As a result of its cash conversion options, prior to the adoption of ASU 2020-06, the Company segregated the liability component of the instruments from the equity components. The liability components were measured by estimating the fair value of a non-convertible debt instrument that is similar in its terms to the Notes. The calculation of the fair value of the debt components required the use of Level 3 inputs, including utilization of convertible investors' credit assumptions and high yield bond indices. Fair value was estimated through discounting future interest and principal payments, an income approach, due under the Notes at a discount rate equal to the estimated borrowing rate for similar non-convertible debt, or 7.0%, 8.0%, and 9.1% with respect to the 2023 Notes, 2025 Notes, and 2027 Notes, respectively. The excess of the aggregate face values of the Notes over the estimated fair values of the liability components of $72.5 million, $21.0 million, and $34.2 million with respect to the 2023 Notes, 2025 Notes, and 2027 Notes, respectively, were recognized as debt discounts and recorded as an increase to additional paid-in capital and were to be amortized over the expected lives of the Notes using the effective interest rate method. Amortization of the debt discounts were recognized as non-cash interest expense.

The transaction costs of $9.2 million, $1.9 million, and $3.1 million incurred in connection with the issuance of the 2023 Notes, 2025 Notes, and 2027 Notes, respectively, were allocated to the liability and equity components based on their relative values. Transaction costs allocated to the liability component were being amortized using the effective interest rate method and recognized as non-cash interest expense over the expected terms of the Notes. Transaction costs allocated to the equity component of $1.9 million, $0.3 million, and $0.8 million with respect to the 2023 Notes, 2025 Notes, and 2027 Notes, respectively, reduced the value of the equity components recognized in stockholders' equity.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

The carrying value of the 2023 Notes, 2025 Notes and 2027 Notes are as follows:

	June 30, 2022			December 31, 2021		
	Principal Amount	Unamortized transaction costs	Net carrying value	Principal Amount	Unamortized debt discount/ transaction costs	Net carrying value
			(in thousands)			
2023 Notes	$ 20,173	$ (53)	$ 20,120	$ 20,173	$ (967)	$ 19,206
2025 Notes	132,500	(1,220)	131,280	132,500	(17,302)	115,198
2027 Notes	125,000	(2,225)	122,775	125,000	(29,966)	95,034
Net carrying value	$ 277,673	$ (3,498)	$ 274,175	$ 277,673	$ (48,235)	$ 229,438

Total interest expense related to the 2023 Notes, 2025 Notes and 2027 Notes is as follows:

	Three months ended June 30,		Six months ended June 30,	
	2022	2021	2022	2021
		(in thousands)		
Cash Interest Expense				
Coupon interest expense - 2023 Notes	$ 136	$ 889	$ 272	$ 1,778
Coupon interest expense - 2025 Notes	1,159	1,159	2,318	2,319
Coupon interest expense - 2027 Notes	1,172	1,172	2,344	2,344
Non-cash Interest Expense				
Amortization of debt discount/transaction costs- 2023 Notes	24	1,390	48	2,754
Amortization of debt discount/transaction costs- 2025 Notes	114	1,185	226	2,348
Amortization of debt discount/transaction costs- 2027 Notes	101	1,011	202	1,998
Total Interest Expense	$ 2,706	$ 6,806	$ 5,410	$ 13,541

The Company determined the 2023 Notes, 2025 notes, and 2027 Notes are Level 2 liabilities in the fair value hierarchy and had an estimated fair value at June 30, 2022 of $20.0 million, $148.0, and $197.7 million, respectively.

Capped Call Transactions

In connection with the offering of the 2027 Notes, on May 13, 2020, the Company entered into privately negotiated capped call transactions (the "Capped Call Transactions"), pursuant to capped call confirmations, covering the total principal amount of the 2027 Notes for an aggregate premium of $10.3 million. The Capped Call Transactions are expected generally to reduce the potential dilution to the Company's common stock upon any conversion of the 2027 Notes and/or offset any cash payments the Company is required to make in excess of the aggregate principal amount of converted 2027 Notes, as the case may be, with such reduction and/or offset subject to a cap based on the capped price of the Capped Call Transactions. The Capped Call Transactions exercise price is equal to the initial conversion price of the 2027 Notes, and the capped price of the Capped Call Transactions is approximately $18.46 per share and is subject to certain adjustments under the terms of the capped call confirmations.

The Capped Call Transactions are separate transactions entered into by the Company with the capped call counterparties, are not part of the terms of the 2027 Notes and do not change the holders' rights under the 2027 Notes. Holders of the 2027 Notes do not have any rights with respect to the Capped Call Transactions. The cost of the Capped Call Transactions is not expected to be tax-deductible as the Company did not elect to integrate the Capped Call Transactions into the 2027 Notes for tax purposes. The Company used a portion of the net proceeds from the offering of the 2027 Notes to pay for the Capped Call Transactions, and the cost of the Capped Call Transactions was recorded as a reduction of the Company's additional paid-in capital in the accompanying consolidated financial statements.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

Revolving Credit Facility

On December 16, 2021, the Company entered into a loan and security agreement providing for a senior secured revolving credit facility in an aggregate principal amount of $150 million (the “Credit Facility”), including a $15 million letter of credit sublimit. The Credit Facility is guaranteed by the Company’s direct material U.S. subsidiaries, subject to customary exceptions. Borrowings under the Credit Facility are secured by a first-priority lien on substantially all of the assets of the Company, subject to customary exceptions. The Credit Facility has a term of five years, maturing on December 16, 2026, or earlier if certain liquidity measures are not met prior to the 2025 Notes maturing. Subject to certain conditions and the receipt of commitments from the lenders, the Loan and Security Agreement allows for revolving commitments under the Credit Facility to be increased by up to $75 million. The existing lenders under the Credit Facility are entitled, but not obligated, to provide such incremental commitments.

Borrowings will bear interest at a floating rate which can be, at the Company’s option, either (a) an alternate base rate plus an applicable rate ranging from 0.50% to 1.25% or (b) a Secured Overnight Financing Rate (“SOFR”) (with a floor of 0.00%) for the specified interest period plus an applicable rate ranging from 1.50% to 2.25%, in each case, depending on the Company’s Secured Net Leverage Ratio (as defined in the Loan and Security Agreement). The Company will pay an unused commitment fee ranging from 0.25% to 0.35% based on unused capacity under the Credit Facility and the Company’s Secured Net Leverage Ratio. The Company may use the proceeds of borrowings under the Credit Facility to pay transaction fees and expenses, provide for its working capital needs and reimburse drawings under letters of credit and for other general corporate purposes.

The Loan and Security Agreement contains customary affirmative covenants for transactions of this type, including, among others, the provision of financial and other information to the administrative agent, notice to the administrative agent upon the occurrence of certain material events, preservation of existence, maintenance of properties and insurance, compliance with laws, including environmental laws, the provision of additional guarantees, and an affiliate transactions covenant, subject to certain exceptions. The Loan and Security Agreement contains customary negative covenants, including, among others, restrictions on the ability to merge and consolidate with other companies, incur indebtedness, refinance our existing convertible notes, grant liens or security interests on assets, make investments, acquisitions, loans, or advances, pay dividends, and sell or otherwise transfer assets.

The Loan and Security Agreement contains financial maintenance covenants that require the Borrower to maintain an Interest Coverage Ratio (as defined in the Loan and Security Agreement) of not less than 3.00 to 1.00, a Total Net Leverage Ratio (as defined in the Loan and Security Agreement) of not more than 4.50 to 1.00, and a Secured Net Leverage Ratio (as defined in the Loan and Security Agreement) of not more than 2.50 to 1.00, in each case, tested at the end of each fiscal quarter commencing with the fiscal quarter ending June 30, 2022. The Loan and Security Agreement also provides for a number of customary events of default, including, among others: payment defaults to the lenders; voluntary and involuntary bankruptcy proceedings; covenant defaults; material inaccuracies of representations and warranties; certain change of control events; material money judgments; and other customary events of default. The occurrence of an event of default could result in the acceleration of obligations and the termination of lending commitments under the Loan and Security Agreement.

No amounts were outstanding under the Credit Facility as of June 30, 2022 or December 31, 2021.

Other Liabilities

Other liabilities at June 30, 2022 and December 31, 2021 included (i) medical and dental benefits for former executives of $1.8 million; (ii) asset retirement obligations of $2.8 million; and (iii) income tax payables of $0.4 million.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

Note 5 — Commitments and Contingencies

Leases

The Company's operating leases primarily include real estate leases for properties used for manufacturing, R&D activities, sales and service, and administration, as well as certain equipment leases. Some leases may include options to renew for a period of up to 5 years, while others may include options to terminate the lease. The weighted average remaining lease term of the Company's operating leases as of June 30, 2022 was 12 years, and the weighted average discount rate used in determining the present value of future lease payments was 5.6%.

The following table provides the maturities of lease liabilities at June 30, 2022:

	Operating Leases *(in thousands)*
Payments due by period:	
2022	$ 2,296
2023	4,069
2024	3,864
2025	3,307
2026	3,488
Thereafter	35,961
Total future minimum lease payments	52,985
Less: Imputed interest	(17,103)
Total	$ 35,882
Reported as of June 30, 2022	
Accrued expenses and other current liabilities	$ 4,110
Long-term operating lease liabilities	31,772
Total	$ 35,882

Operating lease cost for the three and six months ended June 30, 2022 were $1.8 million and $3.7 million, respectively, and $1.8 million and $3.1 million, respectively, for the comparable 2021 periods. Variable lease cost for the three and six months ended June 30, 2022 were $0.5 million and $1.0 million, respectively, and $0.4 million and $0.9 million, respectively, for the comparable 2021 periods. Additionally, the Company has an immaterial amount of short-term leases. Operating cash outflows from operating leases for the six months ended June 30, 2022 and 2021 were $3.8 million and $3.3 million, respectively.

Purchase Commitments

Veeco has purchase commitments of $252.1 million at June 30, 2022, substantially all of which become due within one year.

Bank Guarantees

Veeco has bank guarantees and letters of credit issued by a financial institution on its behalf as needed. At June 30, 2022, outstanding bank guarantees and standby letters of credit totaled $7.8 million, and unused bank guarantees and letters of credit of $14.4 million were available to be drawn upon.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

Legal Proceedings

On June 8, 2018, an Ultratech shareholder who received Veeco stock as part of the consideration for the Ultratech acquisition filed a purported class action complaint in the Superior Court of the State of California, County of Santa Clara, captioned Wolther v. Maheshwari et al., Case No. 18CV329690, on behalf of himself and others who purchased or acquired shares of Veeco pursuant to the registration statement and prospectus which Veeco filed with the SEC in connection with the Ultratech acquisition (the “Wolther Action”). On August 2 and August 8, 2018, two purported class action complaints substantially similar to the Wolther Action were filed on behalf of different plaintiffs in the same court as the Wolther Action. These cases have been consolidated with the Wolther Action, and a consolidated complaint was filed on December 11, 2018. The consolidated complaint seeks to recover damages and fees under Sections 11, 12, and 15 of the Securities Act of 1933 for, among other things, alleged false/misleading statements in the registration statement and prospectus relating to the Ultratech acquisition, relating primarily to the alleged failure to disclose delays in the advanced packaging business, increased MOCVD competition in China, and an intellectual property dispute. In October 2021, Veeco and the court-appointed class representatives signed an agreement to settle the Wolther Action on a class-wide basis for $15.0 million, subject to court approval and class members’ opportunity to object and opt-out. On June 27, 2022, the court granted final approval to the class action settlement. The settlement amount has been funded by insurance carriers. The corresponding receivable and liability had been included within “Prepaid expenses and other current assets” and “Accrued expenses and other current liabilities”, respectively, in the Consolidated Balance Sheets as of December 31, 2021.

On December 21, 2018, a purported Veeco stockholder filed a derivative action in the Superior Court of the State of California, County of Santa Clara, captioned Vladimir Gusinsky Revocable Trust v. Peeler, et al., Case No. 18CV339925, on behalf of nominal defendant Veeco. The complaint seeks to assert claims for breach of fiduciary duty, waste of corporate assets, and unjust enrichment against current and former Veeco directors premised on purported misstatements and omissions in the registration statement relating to the Ultratech acquisition. On January 25, 2021, the court granted the defendants’ demurrer without leave to amend effecting the dismissal of the case. On March 26, 2021, plaintiff filed its notice of appeal of the trial court’s order granting defendants’ demurrer without leave to amend. In April 2022, Veeco and plaintiff reached an agreement to settle the Derivative Action subject to court approval. As part of the settlement and subject to court approval, Veeco will make certain revisions to its internal Disclosure Committee Charter and its director education program. The agreement also provides that, subject to court approval, plaintiff will receive $0.3 million for fees and expenses. This amount will be funded by insurance that Veeco maintains in the normal course of its business. The parties are in the process of requesting the court’s approval of the settlement.

The Company is involved in various other legal proceedings arising in the normal course of business. The Company does not believe that the ultimate resolution of these matters will have a material adverse effect on its consolidated financial position, results of operations, or cash flows.

Note 6 — Derivative Financial Instruments

The Company is exposed to financial market risks arising from changes in currency exchange rates. Changes in currency exchange rates could affect the Company’s foreign currency denominated monetary assets and liabilities and forecasted cash flows. The Company enters into monthly forward derivative contracts from time to time with the intent of mitigating a portion of this risk. The Company only uses derivative financial instruments in the context of hedging and not for speculative purposes and had not designated its foreign exchange derivatives as hedges. Accordingly, changes in fair value from these contracts are recorded as “Other operating expense (income), net” in the Company’s Consolidated Statements of Operations. The Company executes derivative transactions with highly rated financial institutions to mitigate counterparty risk.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

The Company did not have any outstanding derivative contracts at June 30, 2022 or December 31, 2021. Additionally, the Company did not have any gains or losses from currency exchange derivatives during the six months ended June 30, 2022 and 2021.

Note 7 — Equity

Statement of Stockholders' Equity

The following tables present the changes in Stockholders' Equity:

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total
	Shares	Amount				
			(in thousands)			
Balance at December 31, 2021	50,653	$ 507	$ 1,116,921	$ (681,283)	$ 1,483	$ 437,628
Cumulative effect of change in accounting principle - adoption of ASU 2020-06	—	—	(56,801)	12,541	—	(44,260)
Net income	—	—	—	13,330	—	13,330
Other comprehensive income (loss), net of tax	—	—	—	—	(822)	(822)
Share-based compensation expense	—	—	4,481	—	—	4,481
Net issuance under employee stock plans	590	6	(6,793)	—	—	(6,787)
Balance at March 31, 2022	51,243	$ 513	$ 1,057,808	$ (655,412)	$ 661	$ 403,570
Net income	—	—	—	9,655	—	9,655
Other comprehensive income (loss), net of tax	—	—	—	—	(272)	(272)
Share-based compensation expense	—	—	6,278	—	—	6,278
Net issuance under employee stock plans	182	2	1,504	—	—	1,506
Balance at June 30, 2022	51,425	$ 515	$ 1,065,590	$ (645,757)	$ 389	$ 420,737

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total
	Shares	Amount				
			(in thousands)			
Balance at December 31, 2020	49,724	$ 497	$ 1,113,352	$ (707,321)	$ 1,846	$ 408,374
Net income	—	—	—	2,494	—	2,494
Other comprehensive income (loss), net of tax	—	—	—	—	(19)	(19)
Share-based compensation expense	—	—	3,237	—	—	3,237
Net issuance under employee stock plans	459	5	(1,630)	—	—	(1,625)
Balance at March 31, 2021	50,183	$ 502	$ 1,114,959	$ (704,827)	$ 1,827	$ 412,461
Net income	—	—	—	6,348	—	6,348
Other comprehensive income (loss), net of tax	—	—	—	—	(24)	(24)
Share-based compensation expense	—	—	4,367	—	—	4,367
Net issuance under employee stock plans	166	1	582	—	—	583
Balance at June 30, 2021	50,349	$ 503	$ 1,119,908	$ (698,479)	$ 1,803	$ 423,735

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

Accumulated Other Comprehensive Income ("AOCI")

The following table presents the changes in the balances of each component of AOCI, net of tax:

	Foreign Currency Translation	Unrealized Gains (Losses) on Available for Sale Securities	Total
		(in thousands)	
Balance - December 31, 2021	$ 1,814	$ (331)	$ 1,483
Other comprehensive income (loss)	(51)	(1,043)	(1,094)
Balance - June 30, 2022	$ 1,763	$ (1,374)	$ 389

There were minimal reclassifications from AOCI into net income for the three and six months ended June 30, 2022 and 2021.

Note 8 — Share-based Compensation

Restricted share awards are issued to employees and board of directors that are subject to specified restrictions and a risk of forfeiture. The restrictions typically lapse over one to four years and may entitle holders to dividends and voting rights. Other types of share-based compensation include performance share awards, performance share units, and restricted share units (collectively with restricted share awards, "restricted shares"), as well as options to purchase common stock.

Share-based compensation expense was recognized in the following line items in the Consolidated Statements of Operations for the three and six months ended June 30, 2022 and 2021:

	Three months ended June 30,		Six months ended June 30,	
	2022	2021	2022	2021
		(in thousands)		
Cost of sales	$ 1,251	$ 650	$ 2,189	$ 1,146
Research and development	1,863	1,132	3,120	1,949
Selling, general, and administrative	3,164	2,585	5,450	4,510
Total	$ 6,278	$ 4,367	$ 10,759	$ 7,605

For the six months ended June 30, 2022, equity activity related to stock options was as follows:

	Number of Shares	Weighted Average Exercise Price
	(in thousands)	
Balance - December 31, 2021	443	$ 32.15
Expired	(261)	32.93
Balance - June 30, 2022	182	31.02

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

For the six months ended June 30, 2022, equity activity related to non-vested restricted shares and performance shares was as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
	(in thousands)	
Balance - December 31, 2021	2,083	$ 17.33
Granted	1,012	31.33
Performance award adjustments	85	14.03
Vested	(678)	15.71
Forfeited	(63)	19.38
Balance - June 30, 2022	2,439	23.42

Note 9 — Income Taxes

Income taxes are estimated for each of the jurisdictions in which the Company operates. Deferred income taxes reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as the tax effect of carryforwards. Realization of net deferred tax assets is dependent on future taxable income. At June 30, 2022, the Company's U.S. deferred tax assets are fully offset by a valuation allowance since the Company cannot conclude that it is more likely than not that these future benefits will be realized. The Company will maintain this valuation allowance until there is sufficient positive evidence to support its reversal. The Company believes there is a reasonable possibility within the next twelve months that sufficient positive evidence may become available to allow management to reach a conclusion that a significant portion of the valuation allowance will no longer be needed. Release of the valuation allowance would result in the recognition of certain deferred tax assets with a corresponding decrease to income tax expense for the period the release is recorded. Additionally, if the valuation allowance is released and the Company continues to earn profits, the Company's effective tax rate would likely increase in future periods compared to its current rates.

At the end of each interim reporting period, the effective tax rate is aligned with expectations for the full year. This estimate is used to determine the income tax provision on a year-to-date basis and may change in subsequent interim periods.

Income before income taxes and income tax expense (benefit) for the three and six months ended June 30, 2022 and 2021 were as follows:

	Three months ended June 30, 2022	Three months ended June 30, 2021	Six months ended June 30, 2022	Six months ended June 30, 2021
	(in thousands)			
Income before income taxes	$ 10,188	$ 6,667	$ 23,902	$ 9,459
Income tax expense (benefit)	$ 533	$ 319	$ 917	$ 617

The Company's tax expense for the three months ended June 30, 2022 was $0.5 million, compared to $0.3 million for the comparable prior period. The 2022 tax expense included an expense of $0.4 million related to the Company's non-U.S. operations and $0.1 million related to the Company's domestic operations. The 2021 tax expense included an expense of $0.2 million related to the Company's non-U.S. operations and $0.1 million related to the Company's domestic operations. For the three months ended June 30, 2022 and 2021, the Company's U.S. deferred tax assets are fully offset by a valuation allowance since the Company cannot conclude that it is more likely than not that these future benefits will be realized. The domestic tax expense for both periods is primarily attributable to state income taxes and the tax amortization of indefinite lived intangible assets that is not available to offset U.S. deferred tax assets. The

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

foreign tax expense for both periods is primarily attributable to non-US operations profits and foreign withholding taxes on unremitted earnings, offset by the amortization of intangible assets.

The Company’s tax expense for the six months ended June 30, 2022 was $0.9 million, compared to $0.6 million for the comparable prior period. The 2022 tax expense included an expense of $0.7 million related to the Company’s non-U.S. operations and $0.2 million related to the Company’s domestic operations. The 2021 tax expense included an expense of $0.4 million related to the Company’s non-U.S. operations and $0.2 million related to the Company’s domestic operations. For the six months ended June 30, 2022 and 2021, the Company’s U.S. deferred tax assets are fully offset by a valuation allowance since the Company cannot conclude that it is more likely than not that these future benefits will be realized. The domestic tax expense for both periods is primarily attributable to state income taxes and the tax amortization of indefinite lived intangible assets that is not available to offset U.S. deferred tax assets. The foreign tax expense for both periods is primarily attributable to non-US operations profits and foreign withholding taxes on unremitted earnings, offset by the amortization of intangible assets.

Note 10 — Segment Reporting and Geographic Information

Veeco operates and measures its results in one operating segment and therefore has one reportable segment: the development, manufacture, sales, and support of semiconductor and thin film process equipment primarily sold to make electronic devices.

Veeco serves the following four end-markets:

Semiconductor

The Semiconductor market refers to early process steps in logic and memory applications where silicon wafers are processed. There are many different process steps in forming patterned wafers, such as deposition, etching, masking, and doping, where the microchips are created but remain on the silicon wafer. This market includes mask blank production for extreme ultraviolet (“EUV”) lithography. This market also includes Advanced Packaging which refers to a portfolio of wafer-level assembly technologies that enable improved performance of electronic products, such as smartphones, high-end servers, and graphical processors.

Compound Semiconductor

The Compound Semiconductor market includes Photonics, Power Electronics, RF Filters and Amplifiers, and Solar applications. Photonics refers to light source technologies and laser-based solutions for 3D sensing, datacom and telecom applications. This includes micro-LED, laser diodes, edge emitting lasers and vertical cavity surface emitting lasers (“VCSELs”). Power Electronics refers to semiconductor devices such as rectifiers, inverters and converters for the control and conversion of electric power in applications such as fast or wireless charging of consumer electronics and automotive applications. RF power amplifiers and filters (including surface acoustic wave (“SAW”) and bulk acoustic wave (“BAW”) filters) are used in 5G communications infrastructure, smartphones, tablets, and mobile devices. They make use of radio waves for wireless broadcasting and/or communications. Solar refers to power obtained by harnessing the energy of the sun through the use of compound semiconductor devices such as photovoltaics.

Veeco Instruments Inc. and Subsidiaries
Notes to the Consolidated Financial Statements - continued
(unaudited)

Data Storage

Data Storage refers to the Hard Disk Drive (“HDD”) market, for which our systems enable customers to manufacture thin film magnetic heads for hard disk drives as part of large capacity storage applications.

Scientific & Other

Scientific & Other refers to advanced materials research and a range of manufacturing applications including optical coatings (laser mirrors, optical filters, and anti-reflective coatings).

Sales by end-market and geographic region for the three and six months ended June 30, 2022 and 2021 were as follows:

	Three months ended June 30,		Six months ended June 30,	
	2022	2021	2022	2021
	(in thousands)			
Sales by end-market				
Semiconductor	$ 97,521	$ 53,689	$ 175,141	$ 105,321
Compound Semiconductor	31,122	24,231	68,231	48,982
Data Storage	21,548	52,025	43,143	93,005
Scientific & Other	13,808	16,399	33,910	32,751
Total	$ 163,999	$ 146,344	$ 320,425	$ 280,059
Sales by geographic region				
United States	$ 57,940	$ 66,969	$ 105,410	$ 112,132
EMEA[1]	27,234	8,939	48,660	22,563
China	28,497	20,880	58,878	40,887
Rest of APAC	49,345	49,460	106,267	104,337
Rest of World	983	96	1,210	140
Total	$ 163,999	$ 146,344	$ 320,425	$ 280,059

(1) EMEA consists of Europe, the Middle East, and Africa
For geographic reporting, sales are attributed to the location in which the customer facility is located.

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

Cautionary Statement Regarding Forward Looking Statements

Our discussion below constitutes "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. When used in this Report, the words "believes," "anticipates," "expects," "estimates," "targets," "plans," "intends," "will," and similar expressions related to the future are intended to identify forward-looking statements. All forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from projected results. You should not place undue reliance on any forward-looking statements, which speak only as of the dates they are made.

Executive Summary

We are an innovative manufacturer of semiconductor process equipment. Our proven ion beam, laser annealing, lithography, MOCVD and single wafer etch & clean technologies play an integral role in the fabrication and packaging of advanced semiconductor devices. With equipment designed to optimize performance, yield and cost of ownership, Veeco holds leading technology positions in the markets we serve. To learn more about Veeco's systems and service offerings, visit www.veeco.com.

COVID-19 Update and Attendant Challenges

As a result of the continued COVID-19 pandemic, governmental authorities and businesses continue to implement numerous and constantly evolving measures to limit the spread of the virus, such as travel bans and restrictions, limits on gatherings, quarantines, shelter-in-place orders, vaccine mandates, and business shutdowns. We have important manufacturing operations in the U.S. and Singapore, and sales and support operations in China, Germany, Japan, Malaysia, Philippines, Singapore, South Korea, Thailand, Taiwan and the United Kingdom, all of which continue to be affected by the COVID-19 pandemic.

Our operations are considered part of the critical and essential infrastructure defined by applicable government authorities, and, although governmental measures to contain the pandemic may be modified or extended, our manufacturing facilities remain open. We believe our diverse product offerings and the critical nature of certain of our products for infrastructure continue to insulate us, to some extent, from the ongoing adverse effects of the pandemic; however, a prolonged economic downturn will adversely affect our customers, which could have a material adverse effect on our revenues, particularly if customers from whom we derive a significant amount of revenue reduce or delay purchases to mitigate the impacts of the pandemic or fail to make payments to us on time or at all.

We serve a global and highly interconnected customer base across the Asia-Pacific region, Europe, and North America. Our net sales to customers located outside of the United States represented approximately 67% of our total net sales for the six months ended June 30, 2022, and 62% and 68% for the years ended December 31, 2021 and 2020, respectively, and we expect that net sales to customers outside the United States will continue to represent a significant percentage of our total net sales. As a result, our business will be adversely impacted by further deterioration in global economic conditions, particularly in markets in Asia and Europe.

We are also seeing the effects of the macroeconomic inflationary cost environment and supply chain disruptions due to strained transportation capacity, labor shortages, high global demand and other factors. These effects include longer lead times and increased costs. We are taking proactive steps to manage the impact on our business, including buying in advance and re-sourcing components on a more frequent basis. We continue to monitor our global supply chain and may experience additional disruptions in future periods, which could cause continued challenges in our ability to obtain raw materials or components required to manufacture our products.

Like many in our industry, we are managing through the effects of the COVID-19 pandemic. Although the full extent of the COVID-19 pandemic's impact on our business, results of operations, supply chain, and growth is not yet known, we proactively identified potential challenges to our business and have been executing business continuity activities to manage disruptions in our business and continue to provide critical infrastructure to our customers. In response to the pandemic, we have taken the following steps, among others, to keep our employees safe, minimize the spread of the virus, and serve our customers:

- maintain flexible health and safety protocols in response to local circumstances at our manufacturing facilities, including extensively and frequently disinfecting our facilities and providing protective equipment;
- continue remote working arrangements for employees that do not need to be physically present on the manufacturing floor or at customer facilities;
- implement virtual meetings, customer demos, and factory acceptances where feasible to enable customers to review data and performance of their system in our factory remotely via live video;
- perform service and support activities remotely where feasible to resolve customer issues and enable our customers to maintain their operations;
- proactively identify gaps in our supply chain and re-source components in order to maintain our customer shipment commitments and mitigate single points of failure;
- monitor our IT systems and implementing contingency and disaster recovery plans to support our IT infrastructure to ensure that our systems remain continuously operative; and
- continue to monitor and, if necessary, reduce our operating expenses and capital expenditures to maintain financial flexibility and profit margins.

While these steps have been effective so far, there could be additional challenges ahead that may impact either our operations or those of our customers, which could have a negative effect on our financial performance, including productivity and capacity impacts as a result of the ongoing pandemic. We expect these measures to continue until we determine that the COVID-19 pandemic is adequately contained for the purposes of our business, and we may take further actions as government authorities require or recommend or as we determine to be in the best interests of our employees, customers and suppliers. As a result, we may incur additional expenses in future periods in response to the pandemic, which could adversely affect our financial position, results of operations, or cash flows. In addition, we may revise our approach to these initiatives or take additional actions to meet the needs of our employees and customers, and mitigate the impact of the pandemic on our business.

Business Update

We serve the following four end-markets: Semiconductor; Compound Semiconductor; Data Storage; and Scientific & Other.

Sales in the Semiconductor market grew significantly both from the prior quarter and from the year ago quarter, driven by our laser annealing systems for logic devices, and lithography systems for Advanced Packaging. We continue to build momentum for our laser annealing solutions with advanced node logic customers. We continue to innovate and have been working with DRAM manufacturers and existing logic customers on their next manufacturing nodes. We also continue to deliver our laser annealing systems to trailing node logic manufacturers. Our lithography systems for Advanced Packaging are aligned with longer-term growth of FOWLP and other Advanced Packaging applications. We view our AP lithography product line as a key enabler for our customers as they seek to improve device performance. Additionally, the ongoing adoption of EUV Lithography for advanced node, semiconductor manufacturing continues to drive demand for our mask blank systems. Overall, our technology and market strategy are well aligned with trends such as artificial intelligence, mobile connectivity and high-performance computing that drive the Semiconductor market. We expect continued growth in this market.

We address the Compound Semiconductor market with a broad portfolio of technologies including primarily Wet Processing and MOCVD, along with MBE and Ion Beam, all of which have been developed to support emerging applications such as 5G driven RF device/filter manufacturing, Gallium Nitride power electronics, and photonics applications including edge-emitting lasers and micro-LEDs. Sales in the Compound Semiconductor market decreased from the prior quarter and increased significantly from the year ago quarter. We shipped systems for photonics and RF Device applications, and we expect future growth to come from MOCVD and other system shipments in the Photonics market.

Sales in the Data Storage market have been growing for several years, primarily driven by shipments of Ion Beam systems. Demand for our Ion Beam products was driven by cloud-based storage growth. In order to be successful, hard disk drive manufacturers are required to increase drive capacity by manufacturing drives with an increasing number of heads and increasing aerial density. After multiple years of customers accelerating their capacity additions, we expect a period of slowing capacity adds by our data storage customers, resulting in an expected revenue decline in our data storage business in 2022 from recent levels. However, with data proliferation forecasted to grow, we continue to gain confidence that 2023 will be a growth year over 2022 based on strong order activity with customers and the long lead-time dynamics in this market.

Sales in the Scientific & Other market are largely driven by sales to governments, universities, and research institutions. While revenue decreased both from the prior quarter and the year ago quarter, we are seeing near term strength due to pent-up demand in the research market, and expect long-term growth to be in line with GDP.

Macroeconomic challenges across the industry, including in particular supply chain constraints, have been well publicized. Parts shortages have required that we plan further ahead than usual, and we have undertaken efforts to increase our purchase commitments to secure critical components in a timely manner. While we have been able to meet our financial targets for the quarter and fulfil our customers' most critical demands, material lead times continue to be a challenge with respect to our supply chain, limiting our ability to fulfil some of our customers' demands in a timely manner, as many of our peers have also been experiencing. Additionally, we are experiencing increasing labor, logistics, and material costs, creating additional gross margin pressures. We expect supply shortages and related challenges to persist throughout 2022, and we continue to monitor our supply chain and work with our suppliers to identify and mitigate potential gaps in an effort to ensure continuity of supply.

Finally, our growth strategy includes placing evaluation systems with select customers in the Semiconductor and Compound Semiconductor markets. These customer evaluations have been performing well, as evidenced by three customers having recently signed off on our tools meeting the specified acceptance criteria. This evaluation program will continue to be a focus as we execute on our growth strategy. In the near term, given strong backlog in our semiconductor and compound semiconductor markets, along with our customer engagements and order activity, we continue to expect revenue growth in 2022, despite the ongoing supply chain challenges, as we make progress toward our long-term financial target model.

Results of Operations

For the three months ended June 30, 2022 and 2021

The following table presents revenue and expense line items reported in our Consolidated Statements of Operations for the indicated periods in 2022 and 2021 and the period-over-period dollar and percentage changes for those line items. Our results of operations are reported as one business segment, represented by our single operating segment.

	Three Months Ended June 30, 2022		2021		Change Period to Period	
			(dollars in thousands)			
Net sales	$ 163,999	100%	$ 146,344	100%	$ 17,655	12%
Cost of sales	99,732	61%	86,178	59%	13,554	16%
Gross profit	64,267	39%	60,166	41%	4,101	7%
Operating expenses, net:						
Research and development	26,016	16%	22,553	15%	3,463	15%
Selling, general, and administrative	22,950	14%	21,466	15%	1,484	7%
Amortization of intangible assets	2,505	2%	2,976	2%	(471)	(16)%
Other operating expense (income), net	(27)	-	(81)	-	54	*
Total operating expenses, net	51,444	31%	46,914	32%	4,530	10%
Operating income	12,823	8%	13,252	9%	(429)	(3)%
Interest income (expense), net	(2,635)	(2)%	(6,585)	(4)%	3,950	(60)%
Income before income taxes	10,188	6%	6,667	5%	3,521	53%
Income tax expense (benefit)	533	-	319	-	214	67%
Net income	$ 9,655	6%	$ 6,348	4%	$ 3,307	52%

* Not meaningful

Net Sales

The following is an analysis of sales by market and by region:

	Three Months Ended June 30, 2022		2021		Change Period to Period	
			(dollars in thousands)			
Sales by end-market						
Semiconductor	$ 97,521	60%	$ 53,689	37%	$ 43,832	82%
Compound Semiconductor	31,122	19%	24,231	17%	6,891	28%
Data Storage	21,548	13%	52,025	35%	(30,477)	(59)%
Scientific & Other	13,808	8%	16,399	11%	(2,591)	(16)%
Total	$ 163,999	100%	$ 146,344	100%	$ 17,655	12%
Sales by geographic region						
United States	$ 57,940	35%	$ 66,969	46%	$ (9,029)	(13)%
EMEA	27,234	17%	8,939	6%	18,295	205%
China	28,497	17%	20,880	14%	7,617	36%
Rest of APAC	49,345	30%	49,460	34%	(115)	(0)%
Rest of World	983	1%	96	-	887	*
Total	$ 163,999	100%	$ 146,344	100%	$ 17,655	12%

* Not meaningful

Sales increased for the three months ended June 30, 2022 against the comparable prior year period, primarily in the Semiconductor and Compound Semiconductor markets, partially offset by a decline in the Data Storage market. By geography, sales increased in the EMEA and China regions, partially offset by a decline in the United States. Sales in the Rest of APAC region for the three months ended June 30, 2022 included sales in Taiwan and Japan of $28.0 million and $11.0 million, respectively. Sales in the Rest of APAC region for the three months ended June 30, 2021 included sales in Taiwan and South Korea of $15.2 million and $14.7 million, respectively. We expect there will continue to be year-to-year variations in our future sales distribution across markets and geographies. In light of the global nature of our business, we are impacted by conditions in the various countries in which we and our customers operate.

Gross Profit

For the three months ended June 30, 2022, gross profit increased against the comparable prior period primarily due to an increase in sales volume, partially offset by a decrease in gross margins. Gross margins decreased principally due to increased logistics costs, as well as an increase in spending as we invested in service infrastructure and capacity expansion to meet the growing demands for our semiconductor product lines and supporting our evaluation systems at customers. We expect our gross margins to fluctuate each period due to product mix and other factors.

Research and Development

The markets we serve are characterized by continuous technological development and product innovation, and we invest in various research and development initiatives to maintain our competitive advantage and achieve our growth objectives. Research and development expenses increased for the three months ended June 30, 2022 against the comparable prior period primarily due to personnel-related expenses as we invest in new research and development and additional applications for our technology in order to be well positioned to capitalize on emerging global megatrends and support longer term growth in Semiconductor and Compound Semiconductor markets.

Selling, General, and Administrative

Selling, general, and administrative expenses increased for the three months ended June 30, 2022 against the comparable prior period primarily due to higher variable expenses associated with the increase in revenue, profitability, and order in-take. Given the uncertainty regarding the impacts on our business resulting from the COVID-19 pandemic, we are focused on the proactive management of expenses. In future periods, we may incur additional selling, general and administrative expenses to support our responses to the COVID-19 pandemic. In addition, we are currently experiencing duplicate operating expenses for the transition from our existing facility in San Jose, California to our new leased facility, and will continue to do so until this transition is completed over the next few quarters.

Amortization Expense

Amortization expense decreased compared to the comparable prior year period primarily due to changes in amortization expense to reflect expected cash flows of certain intangible assets, as well as certain other intangible assets becoming fully amortized in 2021.

Interest Income (Expense)

We recorded net interest expense of $2.6 million for the three months ended June 30, 2022, compared to $6.6 million for the comparable prior year period. The decrease in interest expense was primarily related to the adoption of ASU 2020-06, as non-cash charges related to the amortization of debt discount and transaction costs of the 2023 Notes, 2025 Notes, and 2027 Notes decreased approximately $3.3 million for the three months ended June 30, 2022 against the comparable prior period. Additionally, cash interest expense on the Notes decreased approximately $0.8 million from the comparable prior period due to the partial repurchase of the 2023 Notes in November 2021.

Income Taxes

At the end of each interim reporting period, we estimate the effective income tax rate expected to be applicable for the full year. This estimate is used to determine the income tax provision or benefit on a year-to-date basis and may change in subsequent interim periods.

Our tax expense for the three months ended June 30, 2022 was $0.5 million, compared to $0.3 million for the comparable prior year period. The 2022 tax expense included an expense of $0.4 million related to our non-U.S. operations and $0.1 million related to our domestic operations, compared to the comparable period in 2021 when the expense included a $0.2 million expense related to our non-U.S. operations and $0.1 million related to our domestic operations.

The domestic tax expense for both periods is primarily attributable to state income taxes and the tax amortization of indefinite-lived intangible assets that is not available to offset U.S. deferred tax assets. The foreign tax expense for both periods is primarily attributable to non-U.S operations profits and foreign withholding taxes on unremitted earnings, offset by the amortization of intangible assets. For the three months ended June 30, 2022 and 2021, the Company's U.S. deferred tax assets are fully offset by a valuation allowance since the Company cannot conclude that it is more likely than not that these future benefits will be realized. We will maintain this valuation allowance until there is sufficient positive evidence to support its reversal. We believe there is a reasonable possibility within the next twelve months that sufficient positive evidence may become available to allow us to reach a conclusion that a significant portion of the valuation allowance will no longer be needed. Release of the valuation allowance would result in the recognition of certain deferred tax assets with a corresponding decrease to income tax expense for the period the release is recorded. Additionally, if the valuation allowance is released and we continue to earn profits, our effective tax rate would likely increase in future periods compared to our current rates.

For the six months ended June 30, 2022 and 2021

The following table presents revenue and expense line items reported in our Consolidated Statements of Operations for the indicated periods in 2022 and 2021 and the period-over-period dollar and percentage changes for those line items. Our results of operations are reported as one business segment, represented by our single operating segment.

	Six Months Ended June 30,				Change	
	2022		2021		Period to Period	
			(dollars in thousands)			
Net sales	$ 320,425	100%	$ 280,059	100%	$ 40,366	14%
Cost of sales	190,146	59%	164,978	59%	25,168	15%
Gross profit	130,279	41%	115,081	41%	15,198	13%
Operating expenses, net:						
Research and development	50,133	16%	44,398	16%	5,735	13%
Selling, general, and administrative	45,844	14%	41,722	15%	4,122	10%
Amortization of intangible assets	5,009	2%	6,330	2%	(1,321)	(21)%
Other operating expense (income), net	(47)	-	(36)	-	(11)	*
Total operating expenses, net	100,939	32%	92,414	33%	8,525	9%
Operating income (loss)	29,340	9%	22,667	8%	6,673	29%
Interest income (expense), net	(5,438)	(2)%	(13,208)	(5)%	7,770	(59)%
Income (loss) before income taxes	23,902	7%	9,459	3%	14,443	153%
Income tax expense (benefit)	917	-	617	-	300	49%
Net income (loss)	$ 22,985	7%	$ 8,842	3%	$ 14,143	160%

* Not meaningful

Net Sales

The following is an analysis of sales by market and by region:

	Six Months Ended June 30, 2022		2021		Change Period to Period	
			(dollars in thousands)			
Sales by end-market						
Semiconductor	$ 175,141	55%	$ 105,321	38%	$ 69,820	66%
Compound Semiconductor	68,231	21%	48,982	17%	19,249	39%
Data Storage	43,143	13%	93,005	33%	(49,862)	(54)%
Scientific & Other	33,910	11%	32,751	12%	1,159	4%
Total	$ 320,425	100%	$ 280,059	100%	$ 40,366	14%
Sales by geographic region						
United States	$ 105,410	33%	$ 112,132	40%	$ (6,722)	(6)%
EMEA	48,660	15%	22,563	8%	26,097	116%
China	58,878	19%	40,887	15%	17,991	44%
Rest of APAC	106,267	33%	104,337	37%	1,930	2%
Rest of World	1,210	-	140	-	1,070	*
Total	$ 320,425	100%	$ 280,059	100%	$ 40,366	14%

* Not meaningful

Sales increased for the six months ended June 30, 2022 against the comparable prior year period, primarily in the Semiconductor and Compound Semiconductor markets, partially offset by a decline in the Data Storage market. By geography, sales increased in the EMEA and China regions, partially offset by a decline in the United States. Sales in the Rest of APAC region for the six months ended June 30, 2022 included sales in Taiwan, Singapore and Japan of $45.2 million, $25.9 million, and $15.2 million, respectively. Sales in the Rest of APAC region for the six months ended June 30, 2021 included sales in Taiwan, South Korea, and Thailand of $33.8 million, $25.6 million, and $13.2 million, respectively. We expect there will continue to be year-to-year variations in our future sales distribution across markets and geographies. In light of the global nature of our business, we are impacted by conditions in the various countries in which we and our customers operate.

Gross Profit

For the six months ended June 30, 2022, gross profit increased against the comparable prior period primarily due to an increase in sales volume. Gross margins remained relatively flat, as increases in margins due to product and region mix of sales in the period were offset by increased logistics costs, as well as an increase in spending as we invested in service infrastructure and capacity expansion to meet the growing demands for our semiconductor product lines and supporting our evaluation systems at customers. We expect our gross margins to fluctuate each period due to product mix and other factors.

Research and Development

The markets we serve are characterized by continuous technological development and product innovation, and we invest in various research and development initiatives to maintain our competitive advantage and achieve our growth objectives. Research and development expenses increased for the six months ended June 30, 2022 against the comparable prior period primarily due to personnel-related expenses as we invest in new research and development and additional applications for our technology in order to be well positioned to capitalize on emerging global megatrends and support longer term growth in Semiconductor and Compound Semiconductor markets.

Selling, General, and Administrative

Selling, general, and administrative expenses increased for the six months ended June 30, 2022 against the comparable prior period primarily due to higher variable expenses associated with the increase in revenue, profitability, and order in-take. However, expenses as a percentage of revenue have decreased when compared to the prior year period. Given the uncertainty regarding the impacts on our business resulting from the COVID-19 pandemic, we are focused on the proactive management of expenses. In future periods, we may incur additional selling, general and administrative expenses to support our responses to the COVID-19 pandemic. In addition, we are currently experiencing duplicate operating expenses for the transition from our existing facility in San Jose, California to our new leased facility, and will continue to do so until this transition is completed over the next few quarters.

Amortization Expense

Amortization expense decreased compared to the comparable prior year period primarily due to changes in amortization expense to reflect expected cash flows of certain intangible assets, as well as certain other intangible assets becoming fully amortized in 2021.

Interest Income (Expense)

We recorded net interest expense of $5.4 million for the six months ended June 30, 2022, compared to $13.2 million for the comparable prior year period. The decrease in interest expense was primarily related to the adoption of ASU 2020-06, as non-cash charges related to the amortization of debt discount and transaction costs of the 2023 Notes, 2025 Notes, and 2027 Notes decreased approximately $6.6 million for the six months ended June 30, 2022 against the comparable prior period. Additionally, cash interest expense on the Notes decreased approximately $1.5 million from the comparable prior period due to the partial repurchase of the 2023 Notes in November 2021.

Income Taxes

At the end of each interim reporting period, we estimate the effective income tax rate expected to be applicable for the full year. This estimate is used to determine the income tax provision or benefit on a year-to-date basis and may change in subsequent interim periods.

Our tax expense for the six months ended June 30, 2022 was $0.9 million, compared to $0.6 million for the comparable prior year period. The 2022 tax expense included an expense of $0.7 million related to our non-U.S. operations and $0.2 million related to our domestic operations, compared to the comparable period in 2021 when the expense included a $0.4 million expense related to our non-U.S. operations and $0.2 million related to our domestic operations.

The domestic tax expense for both periods is primarily attributable to state income taxes and the tax amortization of indefinite-lived intangible assets that is not available to offset U.S. deferred tax assets. The foreign tax expense for both periods is primarily attributable to non-U.S operations profits and foreign withholding taxes on unremitted earnings, offset by the amortization of intangible assets. For the six months ended June 30, 2022 and 2021, the Company’s U.S. deferred tax assets are fully offset by a valuation allowance since the Company cannot conclude that it is more likely than not that these future benefits will be realized. We will maintain this valuation allowance until there is sufficient positive evidence to support its reversal. We believe there is a reasonable possibility within the next twelve months that sufficient positive evidence may become available to allow us to reach a conclusion that a significant portion of the valuation allowance will no longer be needed. Release of the valuation allowance would result in the recognition of certain deferred tax assets with a corresponding decrease to income tax expense for the period the release is recorded. Additionally, if the valuation allowance is released and we continue to earn profits, our effective tax rate would likely increase in future periods compared to our current rates.

Liquidity and Capital Resources

Our cash and cash equivalents, restricted cash, and short-term investments are as follows:

	June 30, 2022	December 31, 2021
	(in thousands)	
Cash and cash equivalents	$ 116,916	$ 119,747
Restricted cash	727	725
Short-term investments	113,159	104,181
Total	$ 230,802	$ 224,653

At June 30, 2022 and December 31, 2021, cash and cash equivalents of $40.1 million and $38.3 million, respectively, were held outside the United States. As of June 30, 2022, we had $16.2 million of accumulated undistributed earnings generated by our non-U.S. subsidiaries for which the U.S. repatriation tax has been provided and did not require the use of cash due to the use of net operating loss carryforwards. Approximately $6.2 million of undistributed earnings will be subject to foreign withholding taxes if distributed back to the United States.

We believe that our projected cash flow from operations, combined with our cash and short-term investments, will be sufficient to meet our projected working capital requirements, contractual obligations, and other cash flow needs for the next twelve months, including scheduled interest payments on our convertible senior notes, purchase commitments, and payments in respect of operating leases. Although there is uncertainty related to the anticipated impact of the COVID-19 outbreak on our future results, we believe our business model, our current cash and short-term investments, and our proactive management of expenses, leave us well-positioned to manage our business through this crisis as it continues to unfold.

A summary of the cash flow activity for the six months ended June 30, 2022 and 2021 is as follows:

Cash Flows from Operating Activities

	Six Months Ended June 30,	
	2022	2021
	(in thousands)	
Net income	$ 22,985	$ 8,842
Non-cash items:		
Depreciation and amortization	12,749	13,189
Non-cash interest expense	477	7,100
Deferred income taxes	(18)	17
Share-based compensation expense	10,759	7,605
Changes in operating assets and liabilities	(18,783)	(16,024)
Net cash provided by (used in) operating activities	$ 28,169	$ 20,729

Net cash provided by operating activities was $28.2 million for the six months ended June 30, 2022 and was due to net income of $23.0 million, adjustments for non-cash items of $24.0 million, partially offset by a decrease in cash flow from changes in operating assets and liabilities of $18.8 million. The changes in operating assets and liabilities were largely attributable to 1) increases in accounts receivable; 2) decreases in accrued expenses; partially offset by 3) increases in customer deposits; and 4) decreases in prepaid expenses and other current assets.

Cash Flows from Investing Activities

	Six Months Ended June 30, 2022	2021
	(in thousands)	
Capital expenditures	$ (15,420)	$ (9,082)
Changes in investments, net	(10,541)	(25,622)
Net cash provided by (used in) investing activities	$ (25,961)	$ (34,704)

The cash used in investing activities during the six months ended June 30, 2022 was primarily attributable capital expenditures. We experienced increased capital expenditures as we finalize the build-out of our newly leased facility in San Jose, California. We expect a period of some duplicate operating expenses until the transition from our pre-existing facility to our new facility is completed. The cash used in investing activities during the six months ended June 30, 2021 was primarily attributable to the net changes in investments, as well as capital expenditures associated with the San Jose facility build-out.

Cash Flows from Financing Activities

	Six Months Ended June 30, 2022	2021
	(in thousands)	
Settlement of equity awards, net of withholding taxes	$ (4,986)	$ (882)
Net cash provided by (used in) financing activities	$ (4,986)	$ (882)

The cash used in financing activities for the six months ended June 30, 2022 and 2021 was related to cash used to settle taxes related to employee equity programs, partially offset by cash received under the Employee Stock Purchase Plan.

Convertible Senior Notes

We have $20.2 million outstanding principal balance of 2.70% convertible senior notes that bear interest at a rate of 2.70% per year, payable semiannually in arrears on January 15 and July 15 of each year, and mature on January 15, 2023, unless earlier purchased by the Company, redeemed, or converted. In addition, we have $132.5 million outstanding principal balance of 3.50% convertible senior notes that bear interest at a rate of 3.50% per year, payable semiannually in arrears on January 15 and July 15 of each year, and mature on January 15, 2025, unless earlier purchased by the Company, redeemed, or converted. Finally, we have $125.0 million outstanding principal balance of 3.75% convertible senior notes that bear interest at a rate of 3.75% per year, payable semiannually in arrears on June 1 and December 1 of each year, and mature on June 1, 2027, unless earlier purchased by the Company, redeemed, or converted. The 2027 Notes are currently convertible by shareholders until September 30, 2022.

We believe that we have sufficient capital resources and cash flows from operations to support scheduled interest payments on these debts. In addition, we have access to a $150.0 million revolving credit facility (including an ability to request an additional $75.0 million, for a total commitment of no more than $225.0 million) to provide for our working capital needs and reimburse drawings under letters of credit and for other general corporate purposes. The Company has no immediate plans to draw down on the facility, which expires in December of 2026. Interest under the Facility is variable based on the Company's secured net leverage ratio and is expected to bear interest based on SOFR plus a range of 150 to 225 basis points, if drawn. There is a yearly commitment fee of 25 to 35 basis points, based on the Company's secured net leverage ratio, charged on the unused portion of the Facility.

Contractual Obligations and Commitments

We have commitments under certain contractual arrangements to make future payments for goods and services. These contractual arrangements secure the rights to various assets and services to be used in the future in the normal course of business. We expect to fund these contractual arrangements with cash generated from operations in the normal course of business.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

Our exposure to market rate risk for changes in interest rates primarily relates to our investment portfolio. We centrally manage our investment portfolios considering investment opportunities and risks, tax consequences, and overall financing strategies. Our investment portfolio includes fixed-income securities with a fair value of approximately $113.2 million at June 30, 2022. These securities are subject to interest rate risk and, based on our investment portfolio at June 30, 2022, a 100 basis point increase in interest rates would result in a decrease in the fair value of the portfolio of $0.7 million. While an increase in interest rates may reduce the fair value of the investment portfolio, we will not realize the losses in the Consolidated Statements of Operations unless the individual fixed-income securities are sold prior to recovery or the loss is determined to be other-than-temporary.

Currency Exchange Risk

We conduct business on a worldwide basis and, as such, a portion of our revenues, earnings, and net investments in foreign affiliates is exposed to changes in currency exchange rates. The economic impact of currency exchange rate movements is complex because such changes are often linked to variability in real growth, inflation, interest rates, governmental actions, and other factors. These changes, if material, could cause us to adjust our financing and operating strategies. Consequently, isolating the effect of changes in currency does not incorporate these other important economic factors.

Changes in currency exchange rates could affect our foreign currency denominated monetary assets and liabilities and forecasted cash flows. We may enter into monthly forward derivative contracts from time to time with the intent of mitigating a portion of this risk. We only use derivative financial instruments in the context of hedging and not for speculative purposes and have not historically designated our foreign exchange derivatives as hedges. Accordingly, changes in fair value from these contracts are recorded as “Other, net” in our Consolidated Statements of Operations. We execute derivative transactions with highly rated financial institutions to mitigate counterparty risk.

Our net sales to customers located outside of the United States represented approximately 65% and 67% of our total net sales for the three and six months ended June 30, 2022, respectively, and 54% and 60% for the comparable 2021 periods. We expect that net sales to customers outside the United States will continue to represent a large percentage of our total net sales. Our sales denominated in currencies other than the U.S. dollar represented approximately 3% of total net sales for both the three and six months ended June 30, 2022 and 2021.

A 10% change in foreign exchange rates would have an immaterial impact on the consolidated results of operations since most of our sales outside the United States are denominated in U.S. dollars.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our principal executive and financial officers have evaluated and concluded that our disclosure controls and procedures are effective as of June 30, 2022. The disclosure controls and procedures are designed to ensure that the information required to be disclosed in this report filed under the Securities Exchange Act of 1934 is recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission’s rules and forms and is accumulated and communicated to our principal executive and financial officers as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

During the quarter ended June 30, 2022, there were no changes in internal control that have materially affected or are reasonably likely to materially affect internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings

On June 8, 2018, an Ultratech shareholder who received Veeco stock as part of the consideration for the Ultratech acquisition filed a purported class action complaint in the Superior Court of the State of California, County of Santa Clara, captioned Wolther v. Maheshwari et al., Case No. 18CV329690, on behalf of himself and others who purchased or acquired shares of Veeco pursuant to the registration statement and prospectus which Veeco filed with the SEC in connection with the Ultratech acquisition (the "Wolther Action"). On August 2 and August 8, 2018, two purported class action complaints substantially similar to the Wolther Action were filed on behalf of different plaintiffs in the same court as the Wolther Action. These cases have been consolidated with the Wolther Action, and a consolidated complaint was filed on December 11, 2018. The consolidated complaint seeks to recover damages and fees under Sections 11, 12, and 15 of the Securities Act of 1933 for, among other things, alleged false/misleading statements in the registration statement and prospectus relating to the Ultratech acquisition, relating primarily to the alleged failure to disclose delays in the advanced packaging business, increased MOCVD competition in China, and an intellectual property dispute. In October 2021, Veeco and the court-appointed class representatives signed an agreement to settle the Wolther Action on a class-wide basis for $15.0 million, subject to court approval and class members' opportunity to object and opt-out. The settlement amount has been funded by insurance carriers. On June 27, 2022, the court granted final approval to the class action settlement.

On December 21, 2018, a purported Veeco stockholder filed a derivative action in the Superior Court of the State of California, County of Santa Clara, captioned Vladimir Gusinsky Revocable Trust v. Peeler, et al., Case No. 18CV339925, on behalf of nominal defendant Veeco. The complaint seeks to assert claims for breach of fiduciary duty, waste of corporate assets, and unjust enrichment against current and former Veeco directors premised on purported misstatements and omissions in the registration statement relating to the Ultratech acquisition. On January 25, 2021, the court granted the defendants' demurrer without leave to amend effecting the dismissal of the case. On March 26, 2021, plaintiff filed its notice of appeal of the trial court's order granting defendants' demurrer without leave to amend. In April 2022, Veeco and plaintiff reached an agreement to settle the Derivative Action subject to court approval. As part of the settlement and subject to court approval, Veeco will make certain revisions to its internal Disclosure Committee Charter and its director education program. The agreement also provides that, subject to court approval, plaintiff will receive $0.3 million for fees and expenses. This amount will be funded by insurance that Veeco maintains in the normal course of its business. The parties are in the process of requesting the court's approval of the settlement.

The Company is involved in various other legal proceedings arising in the normal course of business. The Company does not believe that the ultimate resolution of these matters will have a material adverse effect on its consolidated financial position, results of operations, or cash flows.

Item 1A. Risk Factors

Information regarding risk factors appears in the Safe Harbor Statement at the beginning of this quarterly report on Form 10-Q, in Part I — Item 1A of our 2021 Form 10-K, and in Part 2, Item 1A of our quarterly report on Form 10-Q for the quarter ending March 31, 2022. There have been no material changes from the risk factors previously disclosed.

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

Unless otherwise indicated, each of the following exhibits has been filed with the Securities and Exchange Commission by Veeco under File No. 0-16244.

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Incorporated by Reference Exhibit	Incorporated by Reference Filing Date	Filed or Furnished Herewith
10.1	Amendment No. 1 to the Veeco Instruments Inc. 2019 Stock Incentive Plan.	S-8	4.8	5/20/2022	
31.1	Certification of Chief Executive Officer pursuant to Rule 13a—14(a) or Rule 15d—14(a) of the Securities and Exchange Act of 1934.				*
31.2	Certification of Chief Financial Officer pursuant to Rule 13a—14(a) or Rule 15d—14(a) of the Securities and Exchange Act of 1934.				*
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes - Oxley Act of 2002.				*
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes - Oxley Act of 2002.				*
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				*
101.XSD	XBRL Schema.				**
101.PRE	XBRL Presentation.				**
101.CAL	XBRL Calculation.				**
101.DEF	XBRL Definition.				**
101.LAB	XBRL Label.				**
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).				**

* Filed herewith
** Filed herewith electronically

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, on August 8, 2022.

Veeco Instruments Inc.

By: /s/ WILLIAM J. MILLER, Ph.D.
William J. Miller, Ph.D.
Chief Executive Officer

By: /s/ JOHN P. KIERNAN
John P. Kiernan
Senior Vice President and Chief Financial Officer

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULE 13a — 14(a) or RULE 15d — 14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934

I, William J. Miller, Ph.D., certify that:

1. I have reviewed this quarterly report on Form 10-Q for the period ended June 30, 2022 of Veeco Instruments 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.

By: /s/ WILLIAM J. MILLER, Ph.D.
William J. Miller, Ph.D.
Chief Executive Officer
Veeco Instruments Inc.
August 8, 2022

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULE 13a — 14(a) or RULE 15d — 14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934

I, John P. Kiernan, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the period ended June 30, 2022 of Veeco Instruments 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.

By: /s/ JOHN P. KIERNAN
John P. Kiernan
Senior Vice President and Chief Financial Officer
Veeco Instruments Inc.
August 8, 2022

Exhibit 32.1

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

In connection with the quarterly report of Veeco Instruments Inc. (the "Company") on Form 10-Q for the period ended June 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, William J. Miller, Ph.D., Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

By: /s/ WILLIAM J. MILLER Ph.D.
William J. Miller, Ph.D.
Chief Executive Officer
Veeco Instruments Inc.
August 8, 2022

A signed original of this written statement required by Section 906 has been provided to Veeco Instruments Inc. and will be retained by Veeco Instruments Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

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

In connection with the quarterly report of Veeco Instruments Inc. (the "Company") on Form 10-Q for the period ended June 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John P. Kiernan, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

By: /s/ JOHN P. KIERNAN
John P. Kiernan
Senior Vice President and Chief Financial Officer
Veeco Instruments Inc.
August 8, 2022

A signed original of this written statement required by Section 906 has been provided to Veeco Instruments Inc. and will be retained by Veeco Instruments Inc. and furnished to the Securities and Exchange Commission or its staff upon request.