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, 2021

OR

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

For the transition period from to

Commission file number: 001-09585

ABIOMED, INC.
(Exact name of registrant as specified in its charter)

DELAWARE	**04-2743260**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

22 CHERRY HILL DRIVE
DANVERS, MASSACHUSETTS 01923
(Address of principal executive offices, including zip code)

(978) 646-1400
(Registrant's telephone number, including area code)

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

Title of each class	**Trading symbol**	**Name of each exchange on which registered**
Common Stock, $0.01 par value	ABMD	The NASDAQ Stock Market LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or 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 (§ 229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

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

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

As of July 30, 2021, 45,380,233 shares of the registrant's common stock, $.01 par value, were outstanding.

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EXPLANATORY NOTES

Pending Trademarks and Registered Marks

Throughout this quarterly report on Form 10-Q ("this Report"), we refer to various trademarks, service marks and trade names that we use in our business. Abiomed, Impella, Impella 2.5, Impella 5.0, Impella LD, Impella CP, Impella RP, Impella 5.5, Impella Connect, and SmartAssist are registered trademarks of Abiomed, Inc., and are registered in the U.S. and certain foreign countries. Impella ECP, Impella XR Sheath, Impella BTR, CVAD, STEMI DTU, Automated Impella Controller and Abiomed Breethe OXY-1 System are pending trademarks of ABIOMED, Inc. Other trademarks and service marks appearing in this Report are the property of their respective holders.

Company References

Throughout this Report, "ABIOMED, Inc.," the "Company," "we," "us" and "our" refer to ABIOMED, Inc. and its consolidated subsidiaries.

Where You Can Find More Information

We make available, free of charge on our website located at www.abiomed.com, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after filing such reports with or furnishing such reports to the U.S. Securities and Exchange Commission ("SEC"). We also use our website for the distribution of Company information. The information we post on our website may be deemed to be material information. Accordingly, investors should monitor our website, in addition to following our press releases, SEC filings and public conference calls and webcasts. The contents of our website are not incorporated by reference into this Report.

PART I. FINANCIAL INFORMATION

ITEM 1: Condensed Consolidated Financial Statements

ABIOMED, INC. AND SUBSIDIARIES
Condensed Consolidated Balance Sheets (Unaudited)
(in thousands, except share data)

	June 30, 2021	March 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 175,454	$ 232,710
Short-term marketable securities	347,577	350,985
Accounts receivable, net	88,645	97,179
Inventories	83,661	81,059
Prepaid expenses and other current assets	34,536	26,032
Total current assets	729,873	787,965
Long-term marketable securities	281,776	264,085
Property and equipment, net	198,234	197,129
Goodwill	79,006	78,568
Other intangibles, net	41,904	42,150
Deferred tax assets	4,958	11,380
Other assets	122,643	113,082
Total assets	$ 1,458,394	$ 1,494,359
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	29,807	$ 34,842
Accrued expenses	56,462	66,046
Deferred revenue	24,094	24,322
Other current liabilities	2,760	3,759
Total current liabilities	113,123	128,969
Other long-term liabilities	11,314	10,162
Contingent consideration	25,577	24,706
Deferred tax liabilities	858	847
Total liabilities	150,872	164,684
Commitments and contingencies (Note 16)		
Stockholders' equity:		
Class B Preferred Stock, $.01 par value	—	—
Authorized - 1,000,000 shares; Issued and outstanding - none		
Common stock, $.01 par value	454	453
Authorized - 100,000,000 shares; Issued 48,070,443 shares as of June 30, 2021 and 47,929,402 shares as of March 31, 2021		
Outstanding 45,377,715 shares as of June 30, 2021 and 45,270,948 shares as of March 31, 2021		
Additional paid in capital	815,416	800,690
Retained earnings	801,482	828,007
Treasury stock at cost 2,692,728 shares as of June 30, 2021 and 2,658,454 shares as of March 31, 2021	(297,619)	(288,030)
Accumulated other comprehensive loss	(12,211)	(11,445)
Total stockholders' equity	1,307,522	1,329,675
Total liabilities and stockholders' equity	$ 1,458,394	$ 1,494,359

The accompanying notes are an integral part of the condensed consolidated financial statements (unaudited)

ABIOMED, INC. AND SUBSIDIARIES
Condensed Consolidated Statements of Operations (Unaudited)
(in thousands, except per share data)

	For the Three Months Ended June 30,	
	2021	2020
Revenue	$ 252,585	$ 164,850
Costs and expenses:		
Cost of revenue	45,188	35,983
Research and development	37,708	26,357
Selling, general and administrative	103,484	68,444
Acquired in-process research and development	115,490	—
	301,870	130,784
(Loss) income from operations	(49,285)	34,066
Other income:		
Investment income, net	1,050	2,397
Other income, net	38,885	24,613
	39,935	27,010
(Loss) income before income taxes	(9,350)	61,076
Income tax provision	17,175	16,488
Net (loss) income	$ (26,525)	$ 44,588
Net (loss) income per share - basic	$ (0.59)	$ 0.99
Weighted average shares outstanding - basic	45,311	45,010
Net (loss) income per share - diluted	$ (0.59)	$ 0.98
Weighted average shares outstanding - diluted	45,311	45,549

The accompanying notes are an integral part of the condensed consolidated financial statements (unaudited)

ABIOMED, INC. AND SUBSIDIARIES
Condensed Consolidated Statements of Comprehensive (Loss) Income (Unaudited)
(in thousands)

	For the Three Months Ended June 30,	
	2021	2020
Net (loss) income	$ (26,525)	$ 44,588
Other comprehensive (loss) income:		
Foreign currency translation gains	83	1,360
Unrealized losses on derivative instrument	(217)	(461)
Net unrealized (losses) gains on marketable securities	(632)	1,755
Other comprehensive (loss) income	(766)	2,654
Comprehensive (loss) income	$ (27,291)	$ 47,242

The accompanying notes are an integral part of the condensed consolidated financial statements (unaudited)

ABIOMED, INC. AND SUBSIDIARIES
Condensed Consolidated Statements of Stockholders' Equity (Unaudited)
(in thousands, except share data)

	Common Stock		Treasury Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Par value	Shares	Amount				
Balance, March 31, 2021	45,270,948	$ 453	2,658,454	$ (288,030)	$ 800,690	$ 828,007	$ (11,445)	$ 1,329,675
Restricted stock units issued	85,284	1	—	—	(1)	—	—	—
Stock options exercised	55,757	1	—	—	2,119	—	—	2,120
Return of common stock to pay withholding taxes on restricted stock	(34,274)	(1)	34,274	(9,589)	—	—	—	(9,590)
Stock compensation expense	—	—	—	—	12,608	—	—	12,608
Other comprehensive (loss) income	—	—	—	—	—	—	(766)	(766)
Net loss	—	—	—	—	—	(26,525)	—	(26,525)
Balance, June 30, 2021	45,377,715	$ 454	2,692,728	$ (297,619)	$ 815,416	$ 801,482	$ (12,211)	$ 1,307,522

	Common Stock		Treasury Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Par value	Shares	Amount				
Balance, March 31, 2020	45,008,687	$ 450	2,533,374	$ (265,411)	$ 739,133	$ 602,482	$ (11,189)	$ 1,065,466
Restricted stock units issued	124,749	1	—	—	(1)	—	—	—
Stock options exercised	31,488	—	—	—	1,010	—	—	1,010
Return of common stock to pay withholding taxes on restricted stock	(52,515)	—	52,515	(9,857)	—	—	—	(9,857)
Stock compensation expense	—	—	—	—	9,298	—	—	9,298
Stock repurchase program	(67,649)	(1)	67,649	(11,309)	—	—	—	(11,310)
Other comprehensive income	—	—	—	—	—	—	2,654	2,654
Net income	—	—	—	—	—	44,588	—	44,588
Balance, June 30, 2020	45,044,760	$ 450	2,653,538	$ (286,577)	$ 749,440	$ 647,070	$ (8,535)	$ 1,101,848

The accompanying notes are an integral part of the condensed consolidated financial statements (unaudited)

ABIOMED, INC. AND SUBSIDIARIES
Condensed Consolidated Statements of Cash Flows (Unaudited)
(in thousands)

	For the Three Months Ended June 30,	
	2021	2020
Operating activities:		
Net (loss) income	$ (26,525)	$ 44,588
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	6,907	5,480
Acquired in-process research & development	115,490	—
Bad debt recoveries	(59)	(277)
Stock-based compensation	12,608	9,298
Write-down of inventory and other	3,508	1,717
Accretion on marketable securities	918	94
Change in fair value of other investments	(17,648)	(23,823)
Gain on previously held interest in preCARDIA	(20,980)	—
Deferred tax provision	6,299	12,946
Change in fair value of contingent consideration	871	801
Other non-cash operating activities	751	970
Changes in assets and liabilities:		
Accounts receivable	8,763	3,014
Inventories	(5,770)	(211)
Prepaid expenses and other assets	(8,697)	485
Accounts payable	(4,762)	(4,458)
Accrued expenses and other liabilities	(16,037)	(19,584)
Deferred revenue	(278)	719
Net cash provided by operating activities	55,359	31,759
Investing activities:		
Purchases of marketable securities	(139,021)	(62,066)
Proceeds from the sale and maturity of marketable securities and other	123,823	139,813
Purchases of other investments and intangible assets	(3,866)	(2,000)
Acquisition of preCARDIA, net of cash acquired	(82,821)	—
Acquisition of Breethe, net of cash acquired	—	(51,947)
Purchases of property and equipment	(7,170)	(10,044)
Net cash (used for) provided by investing activities	(109,055)	13,756
Financing activities:		
Proceeds from the exercise of stock options	2,120	1,010
Taxes paid related to net share settlement upon vesting of stock awards	(9,590)	(9,857)
Repurchase of common stock	—	(11,310)
Net cash used for financing activities	(7,470)	(20,157)
Effect of exchange rate changes on cash and cash equivalents	3,910	(2,872)
Net (decrease) increase in cash and cash equivalents	(57,256)	22,486
Cash and cash equivalents at beginning of period	232,710	192,341
Cash and cash equivalents at end of period	$ 175,454	$ 214,827
Supplemental disclosure of cash flow information:		
Cash paid for income taxes	$ 14,998	$ 2,831
Supplemental disclosure of non-cash activities:		
Contingent consideration related to the acquisition of Breethe	—	13,900
Property and equipment in accounts payable and accrued expenses	1,014	2,044
Right-of-use assets obtained in exchange for lease liabilities	283	804

The accompanying notes are an integral part of the condensed consolidated financial statements (unaudited)

Note 1. Nature of Business

ABIOMED, Inc. (the "Company" or "ABIOMED") is a provider of medical devices that provide circulatory support and oxygenation. Our products are designed to enable the heart to rest by improving blood flow and/or provide sufficient oxygenation to those in respiratory failure. Our products are designed to enable the heart to rest by improving blood flow and/or provide sufficient oxygenation to those in respiratory failure. The Company develops, manufactures and markets proprietary products that are designed to enable the heart to rest, heal and recover by improving blood flow and/or performing the pumping function of the heart. The Company's products are used in the cardiac catheterization lab, or cath lab, by interventional cardiologists and in the heart surgery suite by cardiac surgeons for patients who are in need of hemodynamic support prophylactically or emergently before, during or after angioplasty or heart surgery procedures.

Note 2. Basis of Preparation and Summary of Significant Accounting Policies

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP, for interim financial reporting as found in the Accounting Standards Codification ("ASC") and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB") and in accordance with Article 10 of Regulation S-X. Accordingly, they do not include all of the information and note disclosures required by GAAP for complete financial statements. These statements should be read in conjunction with the consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended March 31, 2021 that has been filed with the SEC.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements include all normal and recurring adjustments that are necessary for a fair presentation of results for the interim periods presented. The results of operations for any interim period may not be indicative of results for the full fiscal year or any other subsequent period. The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements. Actual results may differ from these estimates.

There have been no changes in the Company's significant accounting policies for the three months ended June 30, 2021 as compared to the significant accounting policies described in the Company's Annual Report on Form 10-K for the fiscal year ended March 31, 2021 that has been filed with the SEC.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements. Actual results may differ from these estimates.

Certain prior period amounts within the notes to the condensed consolidated financial statements have been reclassified to conform to the current period presentation.

COVID-19 Pandemic

The Company is subject to risks and uncertainties as a result of the ongoing COVID-19 pandemic. The ongoing 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 the operations of its 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, clinical trials, research and development costs, reserves and allowances, fair value measurements, asset impairment charges, contingent consideration obligations, and the effectiveness of the Company's hedging instruments, 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 ongoing COVID-19 pandemic (including new variants of COVID-19), its severity, the actions to contain the virus or address its impact, the timing, distribution, and efficacy of vaccines and other treatments, U.S. and foreign government actions to respond to the reduction in global economic activity, and how quickly and to what extent normal economic and operating conditions can resume.

While the COVID-19 pandemic remains fluid and continues to evolve differently across various geographies, the Company believes it is likely to continue to experience variable impacts on its business. Hospitals are generally managing the pandemic better currently than they have in the earlier part of the pandemic due to more testing, improved protocols, more experience with the effects of COVID-19 and a greater number of vaccinated caregivers. During these challenging times, the Company's priorities have been to support its clinician partners, protect the well-being of its employees and maintain continuous access to its life-saving technologies while offering front-line in-hospital support. The Company has established onsite COVID-19 testing and vaccination for its employees in both Danvers, Massachusetts and Aachen, Germany, set up temperature-taking stations, administered thousands of COVID-19 tests to date and provided personal protective equipment for its employees in order to maintain a safe working environment.

The Company's proactive testing program has reduced exposure with early detection, reduced employee anxiety and enabled its manufacturing facilities to operate at full capacity in line with local social distancing requirements. The Company also took proactive actions in order to mitigate the business impact of COVID-19 on its financial operations and it continues to monitor closely in order the business impact of COVID-19. Despite the ongoing challenges posed by COVID-19, including the recent global resurgence, the Company continues to invest strategically in engineering, regulatory, clinical trials and manufacturing in order to support its future growth initiatives and sales and marketing activities, with a particular focus on training and education initiatives to drive utilization of its products and recovery awareness for acute heart failure patients.

The Company continues to closely monitor the impact of COVID-19 on all aspects of its business and geographies, including its impact on its customers, employees, suppliers, vendors, business partners and distribution channels. The extent to which the COVID-19 pandemic impacts the Company's business, results of operations, and financial condition will depend on future developments, which are highly uncertain and are difficult to predict. Even after the ongoing COVID-19 pandemic has subsided, the Company may continue to experience materially adverse impacts on its financial condition and results of operations.

Recently Adopted Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board ("FASB") issued ASU 2019-12, Simplifying the Accounting for Income Taxes (ASC 740). The ASU enhances and simplifies various aspects of the income tax accounting guidance in ASC 740, including requirements related to hybrid tax regimes, the tax basis step-up in goodwill obtained in a transaction that is not a business combination, separate financial statements of entities not subject to tax, the intra-period tax allocation exception to the incremental approach, ownership changes in investments, changes from a subsidiary to an equity method investment, interim-period accounting for enacted changes in tax law, and the year-to-date loss limitation in interim-period tax accounting. This guidance is effective for the Company for annual and interim periods beginning after December 31, 2020; however, early adoption is permitted. The Company adopted this standard as of April 1, 2021 on a prospective basis. The adoption did not have a material impact on the Company's condensed consolidated financial statements.

In January 2020, the FASB issued ASU 2020-01, "Investments—Equity Securities (Topic 321), Investments—Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)," an amendment clarifying the interaction between accounting standards related to equity securities, equity method investments, and certain derivative instruments. The guidance is effective for fiscal years beginning after December 15, 2020. The Company adopted this standard as of April 1, 2021 and the adoption did not have a material impact on the Company's condensed consolidated financial statements.

Recently Issued Accounting Pronouncements Not Yet Effective

No other new accounting pronouncements, issued or effective, during the period had, or are expected to have, a material impact on our condensed consolidated financial statements.

Note 3. Acquisitions

Acquisition of preCARDIA, Inc.

The Company acquired 100% interest in preCARDIA on May 28, 2021. preCARDIA is a developer of a proprietary catheter and controller that is expected to complement the Company's product portfolio to expand options for patients with acute decompensated heart failure ("ADHF"). The preCARDIA system is uniquely designed to rapidly treat ADHF-related volume overload by effectively reducing cardiac filling pressures and promoting decongestion to improve overall cardiac and renal function. The Company determined that substantially all of the fair value was concentrated in the acquired in-process research and development asset in accordance with ASC 805 Business Combinations. As such, the acquisition was accounted for as an asset acquisition.

The Company acquired preCARDIA for a purchase price of $115.2 million, with a potential payout of $5 million payable based on achievement of a commercial milestone. The purchase price included cash consideration of $82.8 million for the remaining interest in preCARDIA, paid to the selling shareholders and for transaction costs associated with the acquisition and $32.4 million representing the Company's previously owned minority interest in preCARDIA. The Company recognized a gain of $21.0 million related to its previously owned minority interest in preCARDIA, within the condensed consolidated statement of operations for the three months ended June 30, 2021.

In connection with the acquisition, the Company acquired net assets of $115.2 million, which included $115.5 million related to the fair value of the in-process research and development asset and $0.3 million for net liabilities assumed. Since the acquired technology platform is pre-commercial and has not reached technical feasibility, the cost of the in-process research and development asset was expensed, resulting in a charge of $115.5 million to the condensed consolidated statement of operations for the three months ended June 30, 2021.

Acquisition of Breethe, Inc.

The Company acquired Breethe, Inc. (“Breethe”), a Maryland corporation, on April 24, 2020. Breethe is engaged in research and development of a novel extracorporeal membrane oxygenation (“ECMO”) system that will complement and expand its product portfolio to more comprehensively serve the needs of patients whose lungs can no longer provide sufficient oxygenation, including patients suffering from cardiogenic shock, or respiratory failure, such as ARDS, H1N1, or COVID-19. The Company acquired Breethe for $55.0 million in cash, with additional potential payouts up to a maximum of $55.0 million payable based on the achievement of certain technical, regulatory and commercial milestones.

Purchase Price Allocation

The acquisition was accounted for as a business combination. The purchase price for the acquisition has been allocated to the assets acquired and liabilities assumed based on their estimated fair values and was finalized in the year ended March 31, 2021.

The acquisition-date fair value of the consideration transferred is as follows:

	Total Acquisition Date Fair Value (in thousands)
Cash and other considerations	$ 57,850
Contingent consideration	13,300
Total consideration transferred	$ 71,150

The following table summarizes the estimated fair values of the assets acquired and liabilities assumed on the date of acquisition (in thousands):

Acquired assets:	
Cash and cash equivalents	$ 3,404
Property and equipment	744
Goodwill	44,485
In-process research and development	27,000
Other assets acquired	895
Total assets acquired	76,528
Liabilities assumed:	
Accounts payable and other liabilities	1,562
Deferred tax liabilities	3,816
Net assets acquired	$ 71,150

Goodwill is calculated as the difference between the acquisition-date fair value of the consideration transferred and the fair values of the assets acquired and liabilities assumed. The goodwill is not expected to be deductible for income tax purposes.

Note 4. Net (Loss) Income Per Share

Basic net (loss) income per share is computed by dividing net (loss) income by the weighted average number of common shares outstanding during the period. Diluted net (loss) income per share is computed by dividing net (loss) income by the weighted average number of dilutive common shares outstanding during the period. Diluted shares outstanding are calculated by adding to the weighted average shares outstanding any potential dilutive securities outstanding for the period. Potential dilutive securities include stock options, restricted stock units, performance-based stock awards and shares to be purchased under the Company's employee stock purchase plan.

For purposes of the diluted net loss per share calculation, potential dilutive securities are excluded from the calculation if their effect would be anti-dilutive. As such, basic and diluted net loss per share are the same for periods with a net loss.

The following tables illustrate the determination of basic and diluted net (loss) income per share for each period presented three months ended June 30, 2021 and 2020 (in thousands, except per share data):

	For the Three Months Ended June 30,	
	2021	2020
Net (loss) income	$ (26,525)	$ 44,588
Weighted average shares – basic	45,311	45,010
Net (loss) income per share – basic	$ (0.59)	$ 0.99

	For the Three Months Ended June 30,	
	2021	2020
Net (loss) income	$ (26,525)	44,588
Weighted average shares – basic	45,311	45,010
Effect of dilutive securities	—	539
Weighted average shares – diluted	45,311	45,549
Net (loss) income per share – diluted	$ (0.59)	$ 0.98

Share-based compensation awards of approximately 1.1 million and 0.2 million shares were outstanding for the three months ended June 30, 2021 and 2020, respectively, but were not included in the computation of diluted net (loss) income per share because the effect of including such shares would have been anti-dilutive or such shares are contingently issuable upon meeting performance criteria in the periods presented.

Note 5. Revenue Recognition

Revenue is recognized when, or as, obligations under the terms of a contract are satisfied, which occurs when control of the promised products or services is transferred to customers. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products or services to a customer.

Product revenue is generally recognized when the customer obtains control of the Company's product, which occurs at a point in time, and may be upon shipment or upon delivery based on the contractual shipping terms of a contract.

Service revenue is generally recognized over time as the services are rendered to the customer based on the extent of progress towards completion of the performance obligation. The Company recognizes service revenue over the term of the service contract. Services are expected to be transferred to the customer throughout the term of the contract and the Company believes recognizing revenue ratably over the term of the contract best depicts the transfer of value to the customer. Revenue generated from preventative maintenance calls is recognized at a point in time when the services are provided to the customer.

Revenue from the sale of products and services are evidenced by either a contract with the customer or a valid purchase order and an invoice which includes all relevant terms of sale and shipment of product or service provided has been incurred. The Company performs a review of each specific customer's credit worthiness and ability to pay prior to acceptance as a customer. Further, the Company performs periodic reviews of its customers' creditworthiness prospectively.

If a contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price based on the

estimated relative standalone selling prices of the promised products or services underlying each performance obligation. The Company determines standalone selling prices based on the price at which the performance obligation is sold separately.

Disaggregation of Revenue

Revenue is disaggregated from contracts between product revenue and service and other revenue and by geography, which the Company believes best depicts how the nature, amount, timing, and uncertainty of revenues and cash flows are affected by economic factors. The Company generally sells its products and services through a direct sales force in the U.S. and Germany and through direct sales and distribution agreements in other international markets outside (e.g., Japan, Europe, Canada, Latin America, Asia-Pacific, Middle East).

The following table disaggregates the Company's revenue by products and services:

	For the Three Months Ended June 30,	
	2021	2020
	(in $000's)	
Product revenue	$ 241,474	$ 155,417
Service and other revenue	11,111	9,433
Total revenue	$ 252,585	$ 164,850

The following table disaggregates the Company's revenue by geographical location:

	For the Three Months Ended June 30,	
	2021	2020
	(in $000's)	
U.S.	$ 207,143	$ 134,725
Europe	32,237	19,658
Japan	11,284	8,985
Other international	1,921	1,482
Total revenue	$ 252,585	$ 164,850

Variable Consideration

Returns Reserve

The Company estimates an allowance for future sales returns based on historical return experience, which requires judgment. The Company estimates the amount of its product sales that may be returned by its customers and records this estimate as a reduction of revenue in the period the related product revenue is recognized. The Company estimates product return liabilities using the expected value method based on its historical sales information and other factors that it believes could significantly impact its expected returns, including product discontinuations, product recalls and expirations, of which it becomes aware. The Company's cost of replacing defective products has not been material and is accounted for at the time of replacement. The Company's returns reserve during the three months ended June 30, 2021 and 2020, was not material.

Rebates and Discounts

The Company provides certain customers with rebates and discounts that are defined in the Company's contract arrangements with customers and are recorded as a reduction of revenue in the period the related revenue is recognized, resulting in a reduction to revenue and the establishment of a liability, which are all included in accrued expenses in the accompanying consolidated balance sheet. Rebates normally result from performance-based offers that are primarily based on attaining contractually specified sales volumes as well as product usage. Discounts are normally from early payment incentives. The Company estimates the amount of rebates and discounts based on an estimate of the third-party's sales and the respective rebate or discount defined in the customer contractual arrangement. Revenue adjustments that relate to performance obligations satisfied in prior periods during the three months ended June 30, 2021 and 2020, were not material.

Contract Balances

Deferred Revenue

The Company's deferred revenue balance was $24.1 million and $24.3 million as of June 30, 2021 and March 31, 2021 respectively. The deferred revenue balance is due to the timing of product shipment and completion of recognizing revenue when the customer obtains control of the product, and additional preventative maintenance service contracts and the subsequent recognition of the contract ratably over the term of the service contract. For each of the three months ended June 30, 2021 and 2020, the Company recognized $9.2 million of revenue that was included in the deferred revenue balance as of March 31, 2021 and 2020, respectively.

Note 6. Financial Instruments

Cash Equivalents, Marketable Securities

The Company's cash equivalents and marketable securities at June 30, 2021 and March 31, 2021 are invested in the following:

June 30, 2021	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
		(in $000's)		
Money market funds	$ 45,996	$ —	$ —	$ 45,996
Repurchase agreements	47,000	—	—	47,000
Total cash equivalents	92,996	—	—	92,996
Short-term U.S. Treasury mutual fund securities	110,826	12	(9)	110,829
Short-term government-backed securities	89,954	15	(5)	89,964
Short-term corporate debt securities	101,488	320	(5)	101,803
Short-term commercial paper	44,986	1	(6)	44,981
Total short-term marketable securities	347,254	348	(25)	347,577
Long-term U.S. Treasury mutual fund securities	20,402	—	(9)	20,393
Long-term government-backed securities	224,785	110	(141)	224,754
Long-term corporate debt securities	36,178	481	(30)	36,629
Total long-term marketable securities	281,365	591	(180)	281,776
	$ 721,615	$ 939	$ (205)	$ 722,349

March 31, 2021:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
		(in $000's)		
Money market funds	$ 124,297	$ —	$ —	$ 124,297
Repurchase agreements	33,000	—	—	33,000
Total cash equivalents	157,297	—	—	157,297
Short-term U.S. Treasury mutual fund securities	72,221	28	—	72,249
Short-term government-backed securities	128,668	13	(12)	128,669
Short-term corporate debt securities	104,253	581	(2)	104,832
Short-term commercial paper	45,237	1	(3)	45,235
Total short-term marketable securities	350,379	623	(17)	350,985
Long-term government-backed securities	225,231	190	(37)	225,384
Long-term corporate debt securities	38,091	630	(20)	38,701
Total long-term marketable securities	263,322	820	(57)	264,085
	770,998	1,443	(74)	772,367

Gross realized gains and losses on sales of our marketable securities were not material for the three months ended June 30, 2021 and 2020.

Derivative Instruments

In October 2019, the Company entered into an intercompany agreement in which it loaned 85.0 million Euro to Abiomed Europe GMBH, its German subsidiary. In conjunction with this intercompany loan agreement, the Company entered into a cross-currency swap agreement to convert a notional amount of 85.0 million Euro equivalent to $93.5 million denominated intercompany loan into U.S. dollars. The objective of this cross-currency swap is to hedge the variability of cash flows related to the forecasted interest and principal payments on the Euro denominated fixed rate loan against changes in the exchange rate between the U.S. dollar and the Euro. Under the terms of this cross-currency swap contract, which has been designated as a cash flow hedge, the Company will make interest payments in Euro and receive interest in U.S. dollars. Upon the maturity of this contract, the Company will pay the principal amount of the loan in Euro and receive U.S. dollars from the counterparty. The cross-currency swap is carried on the consolidated balance sheet at fair value, and changes in the fair values are recorded as unrealized gains or losses in accumulated other comprehensive (loss) income.

The Company does not enter into derivative instruments for any purpose other than cash flow hedging.

The following table summarizes the terms of the cross-currency swap agreement as of June 30, 2021 (dollar amounts in thousands):

	Effective Date	Maturity	Fixed Rate	Aggregate Notional Amount (in $000's)
Pay EUR	October 15,	October 15,	2.75%	EUR 85,000
Receive U.S.$	2019	2024	4.64%	USD 93,457

The following table presents the fair value of the Company's derivative instrument as of June 30, 2021:

Derivatives designated as hedging instruments under ASC 815	Balance Sheet classification	June 30, 2021	March 31, 2021
Cross-currency swap	Other long-term liabilities	$ 5,559	$ 4,298

The Company has structured its cross-currency swap agreement to be 100% effective and, as a result, there was no net impact to earnings resulting from hedge ineffectiveness. Changes in the fair value of the cross-currency swap are designated as a hedging instrument that effectively offsets the variability of cash flows are reported in accumulated other comprehensive (loss) income. These amounts subsequently are reclassified into the consolidated statements of operations in the same period in which the related hedged item affects earnings. The change of fair value of the cross-currency swap during the first quarter of fiscal year 2022 was mainly due to the fluctuations of the Euro to the U.S. dollar exchange rates.

For both the three months ended June 30, 2021 and 2020, the Company recorded income related to the interest rate differential of the cross-currency swap of $0.4 million, in other income, included in the condensed consolidated statements of operations.

Contingent Consideration

Contingent consideration represents potential milestones that the Company may pay as additional consideration related to acquired businesses. The Company has contingent consideration potentially payable related to the acquisition of ECP Entwicklungsgesellschaft mbH ("ECP") in July 2014 and the acquisition of Breethe in April 2020. The fair value of the contingent consideration at each reporting date is updated by reflecting the changes in fair value reflected within research and development expenses in the Company's consolidated statements of operations. Significant increases or decreases in any valuation assumptions, including probabilities of success or changes in expected timelines for achievement of any of these milestones, could result in a significantly higher or lower fair value of the contingent consideration liability. There is no assurance that any of the conditions for the milestone payments will be met.

The components of contingent consideration liability are as follows:

	June 30, 2021	March 31, 2021
	(in $000's)	
ECP	$ 10,677	$ 10,306
Breethe	14,900	14,400
	$ 25,577	$ 24,706

ECP

In July 2014, the Company acquired ECP and AIS GmbH Aachen Innovative Solutions ("AIS") for $13.0 million in cash, with additional potential payouts totaling $15.0 million based on the achievement of CE Mark approval in the European Union and a revenue-based milestone related to the development of the future Impella ECP™ expandable catheter pump technology. These potential milestone payments may be made, at the Company's option, by a combination of cash or ABIOMED common stock.

The Company used a combination of an income approach, based on various revenue and cost assumptions and applying a probability to each outcome and a Monte-Carlo valuation model, both of which consider significant unobservable inputs. For the clinical and regulatory milestone, probabilities were applied to each potential scenario and the resulting values were discounted using a rate that considers weighted average cost of capital as well as a specific risk premium associated with the riskiness of the earn out itself, the related projections, and the overall business. The revenue-based milestone is valued using a Monte-Carlo valuation model, which simulates estimated future revenues during the earn out-period using management's best estimates.

Key unobservable inputs include the discount rate used to present value the projected revenues and cash flows (ranging from 1% to 16%), the probability of achieving the various technical, regulatory and commercial milestones (estimated to be 71%) and projected revenues, which are based on the Company's most recent internal operational budgets and long-range strategic plans.

Breethe, Inc.

In April 2020, the Company acquired Breethe for $55.0 million in cash, with additional potential payouts up to a maximum of $55.0 million payable based on the achievement of certain technical, regulatory and commercial milestones.

The Company used a combination of an income approach, based on various revenue and cost assumptions and applying a probability to each outcome and a Monte-Carlo valuation model, both of which consider significant unobservable inputs. For the regulatory milestones, probabilities were applied to each potential scenario and the resulting values were discounted using a rate that considers weighted average cost of capital as well as a specific risk premium associated with the riskiness of the earn out itself, the related projections, and the overall business. The commercial milestones are valued using a Monte-Carlo valuation model, which simulates estimated future revenues during the earn out-period using management's best estimates.

Key unobservable inputs include the discount rates used to present value the projected revenues and cash flows (ranging from 1% to 16%), the probability of achieving the various technical, regulatory and commercial milestones (estimated to range from 25% to 75%) and projected revenues, which are based on the Company's most recent internal operational budgets and long-range strategic plans.

Fair Value Hierarchy

Fair value is defined as the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three categories:

Level 1: Quoted market prices in active markets for identical assets or liabilities.

Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are not corroborated by market data.

Level 1 primarily consists of financial instruments whose values are based on quoted market prices such as exchange-traded instruments and listed equities.

Level 2 includes financial instruments that are valued using models or other valuation methodologies. These models are primarily industry-standard models that consider various assumptions, including time value, yield curve, volatility factors, prepayment speeds, default rates, loss severity, current market and contractual prices for the underlying financial instruments, as well as other relevant economic measures. Substantially all of these assumptions are observable in the marketplace, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Level 3 is comprised of unobservable inputs that are supported by little or no market activity. Financial assets are considered Level 3 when their fair values are determined using pricing models, discounted cash flows or similar techniques and at least one significant model assumption or input is unobservable.

The following tables present the Company's fair value hierarchy for its financial instruments measured at fair value:

June 30, 2021	Level 1	Level 2	Level 3	Total
	(in $000's)			
Assets				
Money market funds	$ 45,996	$ —	$ —	$ 45,996
Repurchase agreements	—	47,000	—	47,000
Short-term U.S. Treasury mutual fund securities	—	110,829	—	110,829
Short-term government-backed securities	—	89,964	—	89,964
Short-term corporate debt securities	—	101,803	—	101,803
Short-term commercial paper	—	44,981	—	44,981
Long-term U.S. Treasury mutual fund securities	—	20,393	—	20,393
Long-term government-backed securities	—	224,754	—	224,754
Long-term corporate debt securities	—	36,629	—	36,629
Investment in Shockwave Medical	56,303	—	—	56,303
Liabilities				
Contingent consideration	—	—	25,577	25,577
Cross-currency swap agreement	—	5,559	—	5,559

March 31, 2021	Level 1	Level 2	Level 3	Total
	(in $000's)			
Assets				
Money market funds	$ 124,297	$ —	$ —	$ 124,297
Repurchase agreements	—	33,000	—	33,000
Short-term U.S. Treasury mutual fund securities	—	72,249	—	72,249
Short-term government-backed securities	—	128,669	—	128,669
Short-term corporate debt securities	—	104,832	—	104,832
Short-term commercial paper	—	45,235	—	45,235
Long-term government-backed securities	—	225,384	—	225,384
Long-term corporate debt securities	—	38,701	—	38,701
Investment in Shockwave Medical	38,655	—	—	38,655
Liabilities				
Cross currency swap agreement	—	4,298	—	4,298
Contingent consideration	—	—	24,706	24,706

The Company has determined that the estimated fair value of its money market funds and its investment in Shockwave Medical, a publicly traded medical device company, are reported as Level 1 financial assets as they are valued at quoted market prices in active markets. The investment in Shockwave Medical is classified within other assets in the consolidated balance sheets.

The Company has determined that the estimated fair value of its repurchase agreements, U.S. Treasury mutual fund securities, government-backed securities, corporate debt securities and commercial paper and cross-currency swap agreement are reported as Level 2 financial assets as they are based on model-driven valuations in which all significant inputs are observable, or can be derived from or corroborated by observable market data for substantially the full term of the asset.

Level 3 Financial Liabilities

This contingent consideration liability is reported as Level 3 as the estimated fair value of the contingent consideration related to the acquisitions of ECP and Breethe require significant management judgment or estimation and is calculated as described above.

The following table summarizes the change in fair value, as determined by Level 3 inputs, of the contingent consideration for the three months ended June 30, 2021:

	(in $000's)
Balance, March 31, 2021	$ 24,706
Additions	—
Change in fair value	871
Balance, June 30, 2021	$ 25,577

The change in fair value of the contingent consideration was primarily due to estimates related to development timelines and the passage of time on the fair value measurement of milestones.

Information About Uncertainty of Level 3 Fair Value Measurements

The significant unobservable inputs used in the fair value of the Company's contingent consideration are the discount rate and forecasted financial information. Significant increases (decreases) in the discount rate would have resulted in a significantly lower (higher) fair value measurement. Significant increases (decreases) in the forecasted financial information would have resulted in a significantly higher (lower) fair value measurement. As of June 30, 2021 and March 31, 2021, the present value of expected payments related to the Company's contingent consideration was $25.6 million and $24.7 million, respectively. The undiscounted value of the payments, assuming that all contingencies are met, would be $70.0 million.

Note 7. Inventories

The components of inventories are as follows:

	June 30, 2021	March 31, 2021
	(in $000's)	
Raw materials and supplies	$ 29,022	$ 27,782
Work-in-progress	36,792	35,187
Finished goods	17,847	18,090
	$ 83,661	$ 81,059

The Company's inventories relate to its Impella® and OXY-1 System product platform. Finished goods and work-in-process inventories consist of direct material, labor and overhead.

Note 8. Property and Equipment

The components of property and equipment are as follows:

	June 30, 2021	March 31, 2021
	(in $000's)	
Land	$ 10,932	$ 10,875
Building and building improvements	149,991	148,870
Leasehold improvements	625	439
Machinery, equipment and computer software	95,496	91,784
Furniture and fixtures	15,991	15,608
Construction in progress	13,226	10,906
Total cost	286,261	278,482
Accumulated depreciation	(88,027)	(81,353)
Property and equipment, net	$ 198,234	$ 197,129

Note 9. Goodwill, In-Process Research and Development and Other Assets

Goodwill

The carrying amount of goodwill as of June 30, 2021 and March 31, 2021 was $79.0 million and $78.6 million, respectively, and has been recorded in connection with the Company's acquisition of Impella Cardiosystems AG, in May 2005, ECP in July 2014 and Breethe in April 2020. The carrying value of goodwill and the change in the balance for the three months ended June 30, 2021 are as follows:

	(in $000's)
Balance, March 31, 2021	$ 78,568
Foreign currency translation impact	438
Balance, June 30, 2021	$ 79,006

The Company evaluates goodwill at least annually on October 31, as well as whenever events or changes in circumstances suggest that the carrying amount may not be recoverable. The Company has no accumulated impairment losses on goodwill.

Other Intangible Assets, net

Other intangible assets, net consists of the following:

	Weighted Average Useful Life (in years)	Cost	June 30, 2021 Accumulated Amortization	June 30, 2021 Net Carrying Value	March 31, 2021 Accumulated Amortization	March 31, 2021 Net Carrying Value
			(in $000's)			
Finite-lived intangible assets						
Developed technology	14.3	$ 27,000	$ (1,200)	$ 25,800	(750)	$ 26,250
Indefinite-lived intangible assets						
In-process research and development		16,104	—	16,104	—	15,900
Total		$ 43,104	$ (1,200)	$ 41,904	(750)	$ 42,150

The Company's finite-lived intangible asset represents developed technology associated with the estimated fair value of the OXY-1 System. The estimated fair value of developed technology was determined using a probability-weighted income approach, which discounts expected future cash flows to present value. The projected cash flow estimates for the OXY-1 System were based on certain key assumptions, including estimates of future revenue and expenses, the stage of development of the technology at the acquisition date and the time and resources needed to complete development. During the year ended March 31, 2021, the Company reclassified the in-process research and development ("IPR&D") asset to developed technology upon receiving FDA 510(k) clearance of the OXY-1 System and began amortizing the intangible asset on a straight-line basis over an estimated useful life of 15 years.

The Company's IPR&D asset represents the estimated fair value of the Impella ECP™ related to the acquisition of ECP and AIS, in July 2014. The estimated fair value of the IPR&D asset at the acquisition date was determined using a probability-weighted income approach, which discounts expected future cash flows to present value. The projected cash flow estimates for the future Impella ECP™ expandable catheter pump were based on certain key assumptions, including estimates of future revenue and expenses, taking into account the stage of development of the technology at the acquisition date and the time and resources needed to complete development.

The Company evaluates the other intangible assets at least annually on October 31, as well as whenever events or changes in circumstances suggest that the carrying amount may not be recoverable. The Company has no accumulated impairment losses on other intangible assets. The change in the indefinite-lived intangible assets balance for both the three months ended June 30, 2021 and March 31, 2021 was related to the impact of foreign currency translation.

Note 10. Other Assets

The components of other assets are as follows:

	June 30, 2021	March 31, 2021
	(in $000's)	
Investment in Shockwave Medical	$ 56,303	$ 38,655
Other investments	55,418	62,995
Operating lease right of use asset (Note 11)	5,698	6,109
Other intangible assets and other assets	5,224	5,323
Total other assets	$ 122,643	$ 113,082

Investment in Shockwave Medical

The fair value of the Company's investment in Shockwave Medical, a publicly-traded medical device company, was $56.3 million and $38.7 million as of June 30, 2021 and March 31, 2021, respectively. During the three months ended June 30, 2021 and 2020, the Company recorded gains of $17.6 million and $23.8 million, respectively in other income.

Other Investments

The carrying value of the Company's portfolio of other investments and the change in the balance for the three months ended June 30, 2021 are as follows:

	(in $000's)
Balance, March 31, 2021	$ 62,995
Additions	3,866
Change in investment upon acquisition (Note 3)	(11,443)
Balance, June 30, 2021	$ 55,418

Other Intangible Assets and Other Assets

The Company's other intangible assets and other assets is comprised primarily of license manufacturing rights to certain technology from third parties and other long-term assets such as prepaid expenses.

Note 11. Leases

Lessee

The following table presents supplemental balance sheet information related to our operating leases:

	June 30, 2021	March 31, 2021
	(in $000's)	
Assets		
Operating lease right-of-use assets in other assets	$ 5,698	$ 6,109
Liabilities		
Operating lease liabilities in other current liabilities	2,124	2,459
Operating lease liabilities in other long-term liabilities	3,534	3,657
Total operating lease liabilities	$ 5,658	$ 6,116

Expense charged to operations under operating leases were $0.8 million and $1.7 million for the three months ended June 30, 2021 and 2020, respectively.

Future minimum lease payments under non-cancelable operating leases as of June 30, 2021 are as follows:

(in thousands, except lease term and discount rate)

Fiscal Years Ending March 31,	
2022	$ 1,808
2023	1,569
2024	1,322
2025	610
2026	76
Thereafter	589
Total future minimum lease payments	5,974
Less: present value adjustment	(316)
Total operating lease liabilities	5,658
Less: operating lease liabilities in other current liabilities	(2,124)
Operating lease liabilities in other long-term liabilities	$ 3,534
Weighted average remaining lease term	4.48
Weighted average discount rate	2.25%

Lessor

In March 2021, as part of the $17.5 million purchase of a building located in Danvers, Massachusetts, we assumed existing leases with third parties for a portion of the building which are classified as operating leases. The leases have annual escalating payments and the latest expires in March 2025 in accordance with the terms and conditions of the existing agreement. For the three months ended June 30, 2021, operating lease income was not material.

Note 12. Accrued Expenses

Accrued expenses consist of the following:

	June 30, 2021	March 31, 2021
	(in $000's)	
Employee compensation	$ 34,441	$ 40,954
Research and development	7,264	6,983
Sales and income taxes	3,626	5,914
Professional, legal, and accounting fees	2,594	1,957
Warranty	2,013	2,053
Marketing	1,841	3,674
Other	4,683	4,511
	$ 56,462	$ 66,046

The accrual for employee compensation consists primarily of accrued bonuses, commissions, employee benefits and payroll taxes at June 30, 2021 and March 31, 2021.

Note 13. Stockholders' Equity

Class B Preferred Stock

The Company has authorized 1,000,000 shares of Class B Preferred Stock, $.01 par value, of which the board of directors can set the designation, rights and privileges. No shares of Class B Preferred Stock have been issued or are outstanding.

Stock Repurchase Program

In August 2019, the Company's Board of Directors authorized a stock repurchase program for up to $200.0 million of shares of its common stock. Under this stock repurchase program, the Company is authorized to repurchase shares through open market purchases, privately negotiated transactions or otherwise in accordance with applicable federal securities laws, including through Rule 10b5-1 trading plans and under Rule 10b-18 of the Exchange Act. The stock repurchase program has no time limit and may be suspended for periods or discontinued at any time. The Company is funding the stock repurchase program with its available cash and marketable securities. The Company did not make any repurchases during the three months ended June 30, 2021. The remaining authorization under the stock repurchase program was $103.8 million as June 30, 2021.

The following table provides shares bought through stock repurchase program during the three months ended June 30, 2021 and 2020:

	For the Three Months Ended June 30,	
	2021	2020
Shares repurchased	—	67,649
Average price per share	—	$ 167.19
Value of shares repurchased (in millions)	—	$ 11.3

Accumulated Other Comprehensive (Loss) Income

The components of accumulated other comprehensive (loss) income, are as follows (in thousands):

	Three Months Ended June 30, 2021			
	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Investments	Gains (Losses) on Derivative Instruments	Total
Balance, March 31, 2021	$ (14,718)	$ 1,369	$ 1,904	$ (11,445)
Other comprehensive income (loss)	83	(217)	(632)	(766)
Balance, June 30, 2021	$ (14,635)	$ 1,152	$ 1,272	$ (12,211)

	Three Months Ended June 30, 2020			
	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Investments	Gains (Losses) on Derivative Instruments	Total
Balance, March 31, 2020	$ (16,860)	$ 1,672	$ 3,999	$ (11,189)
Other comprehensive income (loss)	1,360	1,755	(461)	2,654
Balance, June 30, 2020	$ (15,500)	$ 3,427	$ 3,538	$ (8,535)

Note 14. Stock-Based Compensation

The following table summarizes stock-based compensation expense by financial statement line item in the Company's condensed consolidated statements of operation:

	For the Three Months Ended June 30,	
	2021	2020
	(in $000's)	
Cost of revenue	$ 1,030	$ 705
Research and development	2,109	1,442
Selling, general and administrative	9,469	7,151
	$ 12,608	$ 9,298

Stock Options

The following table summarizes the stock option activity for the three months ended June 30, 2021:

	Options (in thousands)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at beginning of period	711	$ 141.87	5.46	
Granted	60	285.52		
Exercised	(56)	38.02		
Cancelled and expired	(3)	259.61		
Outstanding at end of period	712	$ 161.56	5.77	$ 111,794
Exercisable at end of period	562	$ 135.54	4.89	$ 103,757
Options vested and expected to vest at end of period	712	$ 161.56	5.77	$ 111,794

Stock options generally vest and become exercisable annually over three years. The remaining unrecognized stock-based compensation expense for unvested stock option awards as of June 30, 2021, was approximately $12.8 million and the estimated weighted-average period over which this cost is expected to be recognized is 2.1 years.

The aggregate intrinsic value of stock options exercised was $15.7 million for the three months ended June 30, 2021. The total cash received as a result of employee stock option exercises for the three months ended June 30, 2021, was approximately $2.1 million.

The Company estimates the fair value of each stock option granted at the grant date using the Black-Scholes option valuation model.

The weighted average grant-date fair values and weighted average assumptions used in the calculation of fair value of options granted was as follows:

	For the Three Months Ended June 30,	
	2021	2020
Weighted average grant-date fair value	$ 103.03	$ 75.75
Valuation assumptions:		
Risk-free interest rate	0.79%	0.31%
Expected option life (years)	4.20	4.22
Expected volatility	44.28%	42.80%

Restricted Stock Units

The following table summarizes activity of restricted stock units for the three months ended June 30, 2021:

	Number of Shares (in thousands)	Weighted Average Grant Date Fair Value (per share)
Restricted stock units at beginning of period	301	$ 273.57
Granted	146	286.57
Vested	(84)	303.33
Forfeited	(7)	268.73
Restricted stock units at end of period	356	$ 272.06

Restricted stock units generally vest annually over three years. The remaining unrecognized compensation expense for outstanding restricted stock units, including performance and market-based awards, as of June 30, 2021 was $81.0 million and the estimated weighted-average period over which this cost is expected to be recognized is 2.3 years.

The weighted average grant-date fair value for restricted stock units granted during the three months ended June 30, 2021 was $286.57. The total fair value of restricted stock units vested during the three months ended June 30, 2021 was $23.4 million.

Performance-Based Awards

In May 2021, performance-based awards of restricted stock units for the potential issuance of up to 44,778 shares of common stock were issued to certain executive officers and employees, which vest upon achievement of prescribed service milestones by the award recipients and the achievement of prescribed performance milestones by the Company. As of June 30, 2021, the Company is recognizing compensation expense based on the probable outcomes related to the prescribed performance targets on the outstanding awards.

Market-Based Awards

In May 2020, the Company awarded certain executive officers and employees a total of up to 61,762 market-based restricted stock units. These restricted stock units will vest and result in the issuance of shares of common stock based on continuing employment and the relative ranking of the total shareholder return (“TSR”) of the Company’s common stock in relation to the TSR of twenty peer companies over a two-year and three-year performance period based on a comparison of average closing stock prices during the 20 trading days prior to the first day of the performance period, reinstated dividends during each performance period and the average closing stock prices during the final 20 trading days of each performance period. The actual number of market-based restricted stock units that may be earned can range from 0% to 200% of the target number of shares. Additionally, the payout percentage is further adjusted based on the Company’s performance relative to the constituents of the S&P 500 Index on the first day

of the performance period that are still actively trading on the last day of each performance period. The restricted stock units will vest following the end of the two-year and three-year performance period, respectively.

In May 2021, the Company awarded certain executive officers and employees a total of up to 62,930 market-based restricted stock units. These restricted stock units will vest upon achievement of prescribed service milestones by the award recipients and the achievement of prescribed performance milestones and relative TSR goals by the Company. These restricted stock units will vest after a single three-year period based upon performance and market milestones. The relative ranking of the TSR of the Company's common stock in relation to the TSR of twenty peer companies over a three-year performance period based on a comparison of average closing stock prices during the 20 trading days prior to the first day of the performance period, reinstated dividends during each performance period and the average closing stock prices during the final 20 trading days of the performance period. The restricted stock units will vest following the end of the three-year performance period.

The Company used a Monte-Carlo simulation model to estimate the grant-date fair value of the TSR restricted stock units. The fair value related to these awards are recorded as compensation expense over the period from date of grant based on the probable outcomes related to the prescribed performance targets on the outstanding awards, regardless of the actual TSR outcome reached.

The table below sets forth the assumptions used to value the awards and the estimated grant-date fair value:

	May 2021	May 2020
Risk-free interest rate	0.3%	0.2%
Expected volatility	44.8%	35.5%
Dividend yield	—	—
Remaining performance period (years)	2.8	1.9 - 2.9
Estimated fair value per share	$292.40	$347.05 - $349.28
Target performance (number of shares)	25,172	30,881

Note 15. Income Taxes

The Company's income tax provision was $17.2 million and $16.5 million for the three months ended June 30, 2021 and 2020, respectively. The Company's effective tax rate was 183.7% and 27.0% for the three months ended June 30, 2021 and 2020, respectively. The effective tax rate differs from the statutory federal income tax rate of 21% for the three months ended June 30, 2021 primarily due to a non-deductible charge for in-process research and development related to the preCARDIA acquisition offset by excess tax benefits related to share-based compensation. The Company recognized excess tax benefits associated with stock-based awards of $3.6 million and $0.5 million as an income tax benefit for the three months ended June 30, 2021 and 2020, respectively.

The Company is subject to the examination of its income tax returns by the Internal Revenue Service ("IRS") and other tax authorities. The outcome of these audits cannot be predicted with certainty. The Company's most recent completed income tax audits were in the U.S. relating to fiscal year 2016 and in Germany, which covered fiscal years 2012 through 2015. These tax audits did not materially impact our financial statements. The Company is currently undergoing an income tax audit by the German tax authorities on Abiomed Europe GMBH and ECP for fiscal years 2016 through 2019. All other tax years remain subject to examination by the federal, state and foreign tax authorities.

Note 16. Commitments and Contingencies

From time to time, the Company is involved in legal and administrative proceedings and claims of various types. In some actions, the claimants seek damages, as well as other relief, which, if granted, would require significant expenditures. The Company records a liability in its consolidated financial statements for these matters when a loss is known or considered probable and the amount can be reasonably estimated. The Company reviews these estimates each accounting period as additional information is known and adjusts the loss provision when appropriate. If a matter is both probable to result in liability and the amount of loss can be reasonably estimated, the Company estimates and discloses the possible loss or range of loss. If the loss is not probable or cannot be reasonably estimated, a liability is not recorded in its consolidated financial statements.

Thoratec Matters

Thoratec Corporation ("Thoratec"), a subsidiary of Abbott Laboratories ("Abbott"), has challenged a number of Company-owned patents in Europe in connection with the launch of Thoratec's HeartMate PHP™ medical device ("PHP") in Europe and the Company has counterclaimed for infringement in the District Court in Düsseldorf. The litigation was stayed pending the highest Court's ruling on the validity and scope of the litigated patents. In September 2019, the Federal Court of Justice in Germany upheld

the Company's patents that are the subject of the patent infringement action for the sales and marketing of Thoratec's PHP pump in Germany. Subsequently, the District Court in Düsseldorf lifted the stay, re-opened the litigation proceedings, and ruled in favor of Abiomed. The Court acknowledged that Thoratec's PHP product infringes two of ABIOMED patents related to the key features of Impella® intravascular pump and future expandable heart pump, known as Impella ECP®. Abbott appealed and the oral hearing is set for August 26, 2021. If upheld, the verdict is provisionally enforceable, which means that ABIOMED will be able to seek a court ordered injunction preventing the sale and marketing of PHP, should Thoratec attempt to launch HeartMate PHP in Germany.

These actions relate solely to Thoratec's ability to manufacture and sell its PHP product in Europe and have no impact on the Company's ability to manufacture or sell its Impella® line of medical devices. The actions do not expose the Company to liability risk, except under local German law that requires a losing party in a proceeding to pay a portion of the other party's legal fees.

Maquet Matters

In December 2015, the Company received a letter from Maquet Cardiovascular LLC ("Maquet"), a subsidiary of Getinge AB, asserting that the Company's Impella® devices infringe certain claims with guidewire, lumen, rotor, purge and sensor features, which were in two Maquet patents and one pending patent application (which has since issued as a third patent) in the U.S. and elsewhere, and attaching a draft litigation complaint. The letter encouraged the Company to take a license from Maquet. In May 2016, the Company filed suit in U.S. District Court for the District of Massachusetts ("D. Mass." or "the Court") against Maquet, seeking a declaratory judgment that the Company's Impella devices do not infringe Maquet's cited patent rights.

In August 2016, Maquet sent a letter to the Company identifying four new Maquet U.S. continuation patent filings with claims that Maquet alleges are infringed by the Company's Impella devices. The four U.S. continuation applications have been issued as patents of Maquet but expired on September 1, 2020.

In September 2016, Maquet filed a response to the Company's suit in D. Mass., including various counterclaims alleging that the Company's Impella 2.5®, Impella CP®, Impella 5.0®, and Impella RP® heart pumps infringe certain claims of the three original issued U.S. patents ("2016 Action"). In July 2017, the Court granted a motion to add three of the four additional continuation patents to the 2016 Action. In April 2018, the Court conducted a Markman hearing on claim interpretation. On September 7, 2018, the judge issued a Memorandum and Order on Claim Construction, where he interpreted the disputed claim terms in the case. Maquet then filed a motion for reconsideration of the Court's construction of one of the disputed claim terms. The motion was denied on May 22, 2019. As a result of the Court's denial, only one of the six originally asserted patents is in dispute. The Company filed a motion for summary judgement (the "MSJ") for the remaining patent on September 18, 2019 (non-infringement) and April 13, 2020 (invalidity). The parties argued the MSJ for non-infringement on November 19, 2019, the MSJ for invalidity on August 20, 2020 and are waiting for Court's resolution. The Court has not set a date for trial. The only remaining patent asserted in this case expired on September 1, 2020.

In November 2017, Maquet filed a second action in D. Mass (the "2017 Action") alleging that the Company's Impella 2.5®, Impella CP®, and Impella 5.0® heart pumps infringe certain claims of the fourth additional U.S. continuation patent mentioned above (the seventh patent overall). Discovery in the 2017 Action is ongoing.

In a series of letters during January and February 2019, Maquet informed the Company of seven new patent applications filed from the patents in the 2016 Action and 2017 Action with claims Maquet alleges would be infringed by the Impella® products if the new applications were to issue as patents. One of the newly issued patents has been added to the 2017 Action. A Markman hearing for the newly-added patent was held on November 18, 2019. A Markman order has not been issued yet. The asserted patent in this case expired on September 1, 2020. Discovery remains ongoing.

In the 2016 Action and 2017 Action, Maquet seeks injunctive relief and monetary damages in the form of a reasonable royalty, with three times the amount for alleged willful infringement. In its responses to the Company's counterclaims, Maquet admits that its current commercially available products do not embody the claims of the asserted patents.

The Company is unable to estimate the potential liability with respect to the legal matters noted above. There are numerous factors that make it difficult to meaningfully estimate possible loss or range of loss at this stage of the legal proceedings, including the significant number of legal and factual issues still to be resolved in the Maquet and Thoratec patent disputes.

Securities Class Action Litigation

On or about August 6, 2019, the Company received a securities class action complaint filed on behalf of a single shareholder in the U.S. District Court for the Southern District of New York ("SDNY"), on behalf of himself and persons or entities that purchased or acquired the Company's securities between January 31, 2019 through July 31, 2019. On October 7, 2019, a similar purported class action complaint was filed by a different shareholder on behalf of himself and persons or entities that purchased or acquired the Company's securities between November 1, 2018 and July 31, 2019. Also, on October 7, 2019, four shareholders filed applications to

be appointed lead plaintiff and for their counsel to be appointed lead counsel for the class. Two of those shareholders also filed motions to consolidate the two cases and two of the shareholders have withdrawn their applications to be lead plaintiff.

The complaints allege that the Company violated Sections 10(b) and 20(a) of and Rule 10b-5 under the Exchange Act, in connection with allegedly misleading disclosures made by the Company regarding its financial condition and results of operations. The Company believes that the allegations are without merit and plans to defend itself vigorously.

On June 29, 2020, the Court issued an order consolidating the two cases and appointed Local 705 International Brotherhood of Teamsters Pension Fund as the lead plaintiff and the Labaton Sucharow firm as lead counsel. On September 17, 2020, the lead plaintiff filed an amended complaint in which it proposed a new class period of May 3, 2018 to July 31, 2019. As prescribed by a scheduling order, the Company filed a motion to dismiss on November 16, 2020, lead plaintiff filed its opposition to that motion on January 15, 2021, and the Company filed its reply on February 24, 2021.

Shareholder Derivative Litigation

On November 6 and 7, 2019, two shareholders filed derivative actions in SDNY that were subsequently consolidated. On November 8, 2019, another shareholder filed a derivative action in Massachusetts Suffolk County Superior Court. On January 7, 2020, another shareholder derivative action was filed in the U.S. District Court for the District of Delaware. The complaints in these actions rely on many of the same allegations as in the securities class actions, and assert that, between November 1, 2018 and July 31, 2019, the directors of the Company made or allowed to be made misleading public statements regarding the Company's growth, ultimately harming the Company.

The Company has agreed with the plaintiffs in all three actions to stay the cases pending resolution of a motion to dismiss in the securities class actions. As a result of the stay, the Delaware action has been administratively closed.

Litigation Demand

On March 3, 2020, a shareholder sent a letter to the Board of Directors asserting that the directors of the Company made or allowed to be made misleading public statements regarding the Company's growth. The letter relies on many of the same allegations as the securities class actions and derivative actions, and demands that the Board (i) undertake an independent investigation of the directors, (ii) bring suit against the directors on behalf of the Company, and (iii) take a number of additional affirmative actions to redress the purported wrongs. On March 30, 2020, the Company, after discussions with the Board of Directors, sent a written response to the shareholder's counsel which they responded to on June 1, 2020. The Company then sent a further response to the shareholder's counsel on June 15, 2020, affirming the decision to defer consideration of the litigation demand pending further developments in the securities class action suit. Following the filing of the amended complaint in the securities class action, described above, the same shareholder renewed their demand on September 29, 2020. The Company responded on October 9, 2020 and once again affirmed that it will defer consideration of the demand pending further substantive developments in the securities class action suit.

On November 5, 2020, a second shareholder sent a letter to the Board of Directors that made essentially the same demands as the September 29, 2020 letter from the first shareholder. The Company responded on November 23, 2020, noting that it will defer consideration of the demand pending further substantive developments in the securities class action suit.

The Company is unable to estimate the potential liability with respect to the various legal matters noted above. There are numerous factors that make it difficult to estimate reasonably possible loss or range of loss at this stage of the legal proceedings, including the significant number of legal and factual issues still to be resolved in the securities class action litigation, as well as in the shareholder derivative litigations

Note 17. Segment and Enterprise Wide Disclosures

The Company operates in one business segment: the research, development and sale of medical devices to assist or replace the pumping function of the failing heart. The Company's chief operating decision maker (determined to be the Chief Executive Officer) does not manage any part of the Company separately, and the allocation of resources and assessment of performance are based on the Company's consolidated operating results. International sales (meaning sales outside the U.S., primarily in Europe and Japan) accounted for 18% of total revenue for each of the three months ended June 30, 2021 and 2020. The Company's long-lived assets are located in the U.S., except for $58.0 million and $56.4 million at June 30, 2021 and March 31, 2021, respectively, which are located primarily in Germany.

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

Forward Looking Statements

This Report, including the documents incorporated by reference in this Report, includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, may be forward-looking statements. These forward-looking statements may be accompanied by such words as "anticipate," "believe," "estimate," "expect," "forecast," "intend," "may," "plan," "potential," "project," "target," "should," "likely," "will" and other words and terms of similar meaning. Each forward-looking statement in this Report is subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statement. Factors that could cause actual results or conditions to differ from those anticipated by these and other forward-looking statements include: the impact of public health threats and epidemics, including the novel coronavirus ("COVID-19") pandemic and resulting or prolonged economic downturns on our operations and financial conditions; effects on our profitability if we are unable to manufacture our products as a result of natural or man-made disasters; fluctuations in foreign currency exchange rates; our dependence on Impella® products for most of our revenues; our ability to successfully compete against our existing or potential competitors; the acceptance of our products by cardiac surgeons and interventional cardiologists, especially those with significant influence over medical device selection and purchasing decisions; the effect of long sales and training cycles associated with expansion into new hospital cardiac centers; the potential for reduced market acceptance of our products and reduced revenue due to lengthy clinician training process; our ability to effectively manage our growth; our ability to anticipate demand for, and successfully commercialize, our products; the impact of unsuccessful clinical trials or procedures relating to products under development; our ability to develop additional and high-quality manufacturing capacity to support continued demand for our products; our dependence on third-party payers to provide reimbursement to our customers of our products; our suppliers' failure to provide the components we require; our reliance on distributors to sell our products in international markets; our success in expanding our direct sales activities into international markets; our ability to sustain profitability at levels achieved in recent years; the unpredictability of fluctuations in our operating results; our ability to develop and commercialize new products or acquire desirable companies, products or technologies; inventory write-downs and other costs due to product quality issues; risks and liabilities associated with acquisitions of other companies or businesses, including our ability to integrate acquired businesses into our operations; the impact of consolidation in the healthcare industry on our prices; our ability to attract and retain key personnel; our ability to obtain governmental and other regulatory approvals and market and sell our products in certain jurisdictions; regulatory or enforcement actions and product liability suits relating to off-label uses of our products; the increased risk of material product liability claims and impact on our reputation and financial results; our ability to maintain compliance with regulatory requirements and continuing regulatory review; the impact of mandatory or voluntary product recalls; material impairments caused by shutdowns of the U.S. federal government; changes in healthcare reimbursement systems in the U.S. and abroad; our ability to comply with healthcare "fraud and abuse" laws and any related penalties for non-compliance; our failure to comply with the U.S. Foreign Corrupt Practices Act and other anti-corruption laws, export control laws, import and customs laws, trade and economic sanctions laws and other laws governing our operations; our or our vendors' ability to achieve and maintain high manufacturing standards; the economic effects of "Brexit" and related impacts to relationships with our existing and future customers; our potential "ownership change" for U.S. federal income tax purposes and our limited utilization of net operating losses from prior tax years; our ability to maintain compliance with, and the impact on us of changes in, tax laws including U.S. Tax Reform legislation; our ability to comply with, and the impact of any related costs or regulatory actions with respect to, environmental, health and safety requirements; our failure to protect our intellectual property or develop or acquire additional intellectual property; compliance with laws protecting the confidentiality of patient health information; disruptions of critical information systems or material breaches in the security of our systems; risks relating to our shares of common stock, including market price volatility and the potential for dilution to our stockholders' ownership interests through the sale of additional securities; changes in methods, estimates and judgments we use in applying our accounting policies; changes in accounting standards, tax laws and financial reporting requirements; the outcome of ongoing securities class action litigation relating to our public disclosures; and other factors discussed in "Part I, Item 1A. Risk Factors" of our annual report on Form 10-K for the year ended March 31, 2021 and the filing subsequently filed with or furnished to the SEC. Readers are cautioned not to place undue reliance on any forward-looking statements contained in this Report, which speak only as of the date of this Report. Any forward-looking statement made in this Report speaks only as of the date hereof. We undertake no obligation to update or revise these forward-looking statements whether as a result of new information, future events or otherwise, unless otherwise required by law.

Overview

We are a leading provider of medical devices that provide circulatory support and oxygenation. Our products are designed to enable the heart to rest by improving blood flow and/or provide sufficient oxygenation to those in respiratory failure. We develop, manufacture and market proprietary products that are designed to enable the heart to rest, heal and recover by improving blood flow to the coronary arteries and end-organs and/or temporarily assisting the pumping function of the heart. Our products are used in the cardiac catheterization lab, or cath lab, by interventional cardiologists, the electrophysiology lab, the hybrid lab and in the heart surgery suite by cardiac surgeons. A physician may use our devices for patients who are in need of hemodynamic support prophylactically, urgently or emergently before, during or after angioplasty or heart surgery procedures. We believe that heart recovery is the optimal clinical outcome for a patient experiencing heart failure because it enhances the potential for the patient to go home with their own heart, facilitating the restoration of quality of life. In addition, we believe that, for the care of such patients, heart recovery is often the most cost-effective solution for the healthcare system.

Our strategic focus and the driver of our revenue growth is the market penetration of our family of Impella® heart pumps. The Impella device portfolio, which includes the Impella 2.5®, Impella CP®, Impella 5.0®, Impella LD®, Impella 5.5® and Impella RP® devices, has supported thousands of patients worldwide. We expect that most of our product and service revenue in the near future will be from our Impella devices. Our Impella 2.5, Impella CP, Impella 5.0, Impella LD, Impella 5.5 and Impella RP devices have U.S Food and Drug Administration or FDA and CE Mark approval which allows us to market these devices in the U.S. and European Union. We expect to continue to make additional pre-market approval, or PMA supplement submissions for our Impella portfolio of devices for additional indications. Our Impella 2.5, Impella CP and Impella 5.0 devices have regulatory approval from the Ministry of Health, Labor and Welfare, or MHLW, in Japan.

COVID-19 Pandemic

The ongoing COVID-19 pandemic has adversely impacted and is likely to further adversely impact nearly all aspects of our business and markets, including our workforce and the operations of our customers, suppliers, and business partners.

While the COVID-19 pandemic remains fluid and continues to evolve differently across various geographies, we believe we are likely to continue to experience variable impacts on our business. Hospitals are generally managing the pandemic better currently than they have in the earlier part of the pandemic due to more testing, improved protocols, more experience with the effects of COVID-19 and a greater number of vaccinated caregivers. During these challenging times, our priorities have been to support our clinician partners, protect the well-being of our employees and maintain continuous access to our life-saving technologies while offering front-line in-hospital support. We have established onsite COVID-19 testing and vaccination for our employees in both Danvers, Massachusetts and Aachen, Germany, set up temperature-taking stations, administered thousands of COVID-19 tests to date and provided personal protective equipment for our employees in order to maintain a safe working environment.

Our proactive testing program has reduced exposure with early detection, reduced employee anxiety and enabled our manufacturing facilities to operate at full capacity in line with local social distancing requirements. We also took proactive actions in order to mitigate the business impact of COVID-19 on our financial operations and we continue monitor closely the business impact of COVID-19. Despite the ongoing challenges posed by COVID-19, we continue to invest strategically in engineering, regulatory, clinical trials and manufacturing in order to support our future growth initiatives and sales and marketing activities, with a particular focus on training and education initiatives to drive utilization of our products and recovery awareness for acute heart failure patients.

We continue to closely monitor the impact of COVID-19 on all aspects of our business and geographies, including its impact on our customers, employees, suppliers, vendors, business partners and distribution channels. The full extent to which the pandemic will directly or indirectly impact our business, results of operations and financial condition, including but not limited to sales, expenses, manufacturing, clinical trials, research and development costs, reserves and allowances, fair value measurements, 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 ongoing COVID-19 pandemic (including new variants of COVID-19), its severity, the actions to contain the virus or address its impact, the timing, distribution, and efficacy of vaccines and other treatments, U.S. and foreign government actions to respond to the reduction in global economic activity, and how quickly and to what extent normal economic and operating conditions can resume.

Acquisition of preCARDIA

We acquired 100% interest in preCARDIA on May 28, 2021. preCARDIA is a developer of a proprietary catheter and controller that will complement Abiomed’s product portfolio to expand options for patients with acute decompensated heart failure (“ADHF”). The preCARDIA system is uniquely designed to rapidly treat ADHF-related volume overload by effectively reducing cardiac filling

pressures and promoting decongestion to improve overall cardiac and renal function. We acquired preCARDIA for a purchase price of $115.2 million, with a potential payout of $5 million payable based on achievement of a commercial milestone. The acquisition was accounted for as an asset acquisition as substantially all of the fair value of the acquisition related to the acquired in-process research and development asset. Since the acquired technology platform is pre-commercial and has not reached technical feasibility, the cost of the in-process research and development asset was expensed, resulting in a charge of $115.5 million to the condensed consolidated statements of operations for the three months ended June 30, 2021. In addition, we recognized a gain of $21.0 million related to our previously owned minority interest within the condensed consolidated statements of operations for the three months ended June 30, 2021.

Our Existing Products

Impella 2.5®

The Impella 2.5 device is a percutaneous micro heart pump with an integrated motor and sensors. The device is designed primarily for use by interventional cardiologists to support patients in the cath lab who may require assistance to maintain circulation. The Impella 2.5 heart pump can be quickly inserted via the femoral artery to reach the left ventricle of the heart, where it is directly deployed to draw blood out of the ventricle and deliver it to the circulatory system. This function is intended to reduce ventricular work and provide blood flow to vital organs. The Impella 2.5 heart pump is introduced with normal interventional cardiology procedures and can pump up to 2.5 liters of blood per minute.

Our Impella 2.5 device has FDA, CE Mark and MHLW approvals which allows us to market these devices in the U.S., European Union and Japan, respectively. We expect to continue to make additional PMA supplement submissions for our Impella portfolio of devices for additional indications. Our Impella 2.5, Impella CP and Impella 5.0 devices have regulatory approval from the MHLW in Japan. The Impella 2.5 device also has Health Canada approval which allows us to market the device in Canada.

Impella CP®

The Impella CP device provides blood flow of approximately one liter more per minute than the Impella 2.5 device and is primarily used by either interventional cardiologists to support patients in the cath lab or by cardiac surgeons in the heart surgery suite.

Our Impella CP device has FDA, CE Mark, and MHLW approval which allows us to market this device in the U.S., European Union and Japan. We expect to continue to make additional PMA supplement submissions for our Impella portfolio of devices for additional indications of Impella CP in the U.S.

Impella 5.0® and Impella LD®

The Impella 5.0 and Impella LD devices are percutaneous micro heart pumps with integrated motors and sensors for use primarily in the heart surgery suite. These devices are designed to support patients who require higher levels of circulatory support as compared to the Impella 2.5 or Impella CP.

Our Impella 5.0 and Impella LD devices have FDA, CE Mark and MHLW approval which allows us to market these devices in the U.S., European Union and Japan. We expect to continue to make additional PMA supplement submissions for our Impella portfolio of devices for additional indications. Our Impella 5.0 device also has Heath Canada approval which allows us to market the device in Canada. We expect to discontinue production and sale of the Impella LD device in fiscal 2022.

Impella 5.5®

The Impella 5.5 device is designed to be a percutaneous micro heart pump with integrated motors and sensors. The Impella 5.5 delivers peak flows of greater than six liters per minute. The Impella 5.5 has a motor housing that is thinner and 45% shorter than the Impella 5.0 and it improves ease of pump insertion through the vasculature.

In September 2019, the Impella 5.5 device received a PMA from the FDA for safety and efficacy in the therapy of cardiogenic shock for up to 14 days in the U.S. The Impella 5.5 pump was introduced in the U.S. through a controlled rollout at hospitals with established heart recovery protocols beginning in fiscal year 2020. The Impella 5.5 device received CE Mark approval in Europe in April 2018 is being introduced in Europe through a similar controlled rollout. We are also targeting a submission of the Impella 5.5 device to the PMDA in Japan in fiscal year 2022. The adoption of the Impella 5.5 device has decreased the utilization of Impella 5.0 and Impella LD at certain sites.

Impella RP®

Impella RP device is a percutaneous catheter-based axial flow pump that is designed to allow greater than four liters of blood flow per minute and is intended to provide the flow and pressure needed to compensate for right side heart failure. Our Impella RP device has FDA and CE Mark approval which allows us to market these devices in the U.S. and European Union. The Impella RP is the first percutaneous single access heart pump designed for right heart support to receive FDA approval. The Impella RP device is approved to provide support of the right heart during times of acute failure for certain patients who have received a left ventricle assist device or have suffered heart failure due to AMI, a failed heart transplant, or following open heart surgery. We expect to continue to make additional PMA supplement submissions for our Impella portfolio of devices for additional indications.

Impella SmartAssist®

The Impella SmartAssist platform includes optical sensor technology for improved pump positioning and the use of algorithms that enable improved native heart assessment during the weaning process. The Impella SmartAssist platform is currently available for our Impella CP, Impella 5.5 and Impella RP heart pumps. The Impella SmartAssist platform is also approved under CE Mark in the European Union and other countries that require a CE Mark approval.

Impella Connect®

Impella Connect is a cloud-based technology that enables secure, remote viewing of the Automated Impella Controller, or AIC, for physicians and hospital staff from anywhere with internet connectivity. We began a controlled roll-out of Impella Connect at certain hospital sites during fiscal year 2020 and transitioned most of our higher volume customers during fiscal year 2021.

OXY-1 System™

The OXY-1 System is a portable external respiratory assistance device that we acquired as part of our acquisition of Breethe, Inc. (“Breethe”), in April 2020 as part of our efforts to expand our product portfolio to support the needs of patients, such as those suffering from cardiogenic shock or respiratory failure, whose lungs can no longer provide sufficient oxygenation. The OXY-1 System takes venous blood from the patient, removes carbon dioxide and adds oxygen much like a human lung, and returns the oxygenated blood safely back to the patient. In October 2020, the OXY-1 System received a 510(k) clearance from the FDA for an all-in-one, compact cardiopulmonary bypass system. In the third quarter of fiscal year 2021, we initiated a controlled launch of the OXY-1 System at a limited number of hospitals in the U.S, that we expect to continue in fiscal year 2022.

Our Product Pipeline

Impella ECP™

The Impella ECP device is designed for blood flow of greater than three liters per minute. It is intended to be delivered on a standard sized catheter and will include an expandable inflow in the left ventricle. The Impella ECP device has achieved initial FDA safety milestones, including completion of the first stage in its FDA early feasibility study (“EFS”). The prospective, multi-center, non-randomized EFS is designed to allow us, study investigators, and the FDA to make qualitative assessments about the safety and feasibility of Impella ECP use in high-risk percutaneous coronary intervention (“PCI”) patients. In fiscal year 2021, we received approval from the FDA to expand the EFS for the Impella ECP device and we continue to enroll patients in this study. Concurrently, we are preparing a single arm pivotal high-risk PCI study for the Impella ECP device and plan to confirm investigational device exemption (“IDE”) protocol and submit for approval with the FDA. The Impella ECP device is still in development and has not been approved for commercial use or sale.

Impella XR Sheath™

The Impella XR Sheath is a low-profile sheath that expands and recoils, allowing for small bore access and closure with certain Impella heart pumps. It inserts at 10 French (Fr) and the flexible, nitinol braids momentarily expand during insertion, then recoil, simplifying access for complex interventions. The Impella XR sheath is intended to produce less trauma at the arterial access site compared to large bore sheaths. In December 2020, the Impella XR Sheath for our Impella 2.5 device received a 510(k) clearance from the FDA. The Impella XR Sheath for our Impella CP device is still in development and has not been approved for commercial use or sale.

Impella BTR™

The Impella BTR device is designed to be a percutaneous micro heart pump with integrated motors and sensors. The Impella BTR device is designed to be smaller, provide up to one year of hemodynamic support and is expected to allow for greater than five

liters of blood flow per minute. The Impella BTR device also includes a wearable driver designed for hospital discharge. The Impella BTR pump is still in development and has not been approved for commercial use or sale.

Critical Accounting Policies and Estimates

Other than the accounting policy changes discussed in "Note 2. Basis of Preparation and Summary of Significant Accounting Policies" to our condensed consolidated financial statements, which is incorporated herein by reference, there have been no significant changes in our critical accounting policies during the three months ended June 30, 2021, as compared to the critical accounting policies disclosed in Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the fiscal year ended March 31, 2021.

Results of Operations for the Three Months Ended June 30, 2021 compared with the Three Months Ended June 30, 2020

The following table sets forth certain condensed consolidated statements of operations data for the periods indicated as a percentage of total revenue:

	For the Three Months Ended June 30,			
	2021		2020	
Revenue	100.0	%	100.0	%
Costs and expenses as a percentage of total revenue:				
Cost of revenue	17.9		21.8	
Research and development	14.9		16.0	
Selling, general and administrative	41.0		41.5	
Acquired in-process research and development	45.7		—	
Total costs and expenses	119.5		79.3	
(Loss) income from operations	(19.5)		20.7	
Other income and income tax provision, net	9.0		6.4	
Net (loss) income as a percentage of total revenue	(10.5)	%	27.0	%

Revenue

The following table disaggregates the Company's revenue by products and services:

	For the Three Months Ended June 30,	
	2021	2020
	(in $000's)	
Product revenue	$ 241,474	$ 155,417
Service and other revenue	11,111	9,433
Total revenue	$ 252,585	$ 164,850

The following table disaggregates the Company's revenue by geographical location:

	For the Three Months Ended June 30,	
	2021	2020
	(in $000's)	
U.S.	$ 207,143	$ 134,725
Europe	32,237	19,658
Japan	11,284	8,985
Other international	1,921	1,482
Total revenue	$ 252,585	$ 164,850

Impella product revenue encompasses Impella 2.5, Impella CP, Impella 5.0, Impella LD, Impella 5.5, Impella RP and Impella AIC product sales and related accessories. Service and other revenue represents revenue earned on service maintenance contracts and preventative maintenance calls.

Total Revenue

Total revenue for the three months ended June 30, 2021 increased by $87.7 million, or 53%, to $252.6 million from $164.9 million for the three months ended June 30, 2020. The increase in total revenue was driven by both Impella product revenue and our service and other revenue, as further described below.

Impella Product Revenue

Impella product revenue for the three months ended June 30, 2021 increased by $86.1 million, or 55%, to $241.5 million from $155.4 million for the three months ended June 30, 2020. Most of the increase in Impella product revenue during the three months ended June 30, 2021 primarily related to higher utilization in U.S., Germany and Japan that was impacted by lower patient utilization in the first quarter of fiscal 2021 due to the impact of the COVID-19 pandemic on elective medical procedures, surgeries and fewer patients seeking treatment at hospitals.

We continue to closely monitor local, regional, and global COVID-19 surges as well as new variants of the virus for an impact on procedures. While we cannot reliably estimate the extent to which the COVID-19 pandemic may impact patient utilization and revenues of our products, our focus is to continue increasing patient utilization of our Impella devices in the U.S., and our plan to continue growing our business internationally, with a continued focus on Europe and Japan.

Service and Other Revenue

Service and other revenue for the three months ended June 30, 2021 increased by $1.7 million, or 18%, to $11.1 million from $9.4 million for the three months ended June 30, 2020. The increase in service revenue was primarily due to an increase in preventative maintenance service contracts. We have expanded the number of Impella AIC consoles at many of our existing higher volume customer sites and continue to sell additional consoles to new customer sites. We expect revenue growth for service revenue to be consistent with recent history as most of these higher volume customer sites in the U.S. have service contracts that normally have three-year terms.

Costs and Expenses

Cost of Revenue

Cost of revenue for the three months ended June 30, 2021 increased by $9.2 million, or 26%, to $45.2 million from $36.0 million for the three months ended June 30, 2020. Gross margin was 82.1% for the three months ended June 30, 2021 and 78.2% for the three months ended June 30, 2020.

The increase in cost of product revenue during the three months ended June 30, 2021 was primarily due to increased investment in direct labor and overhead as we expanded our manufacturing capacity of our facilities in the U.S. and Germany. The increase in gross margin during the three months ended June 30, 2021 was primarily due to a higher sales volume and mix primarily associated with our initial launch of Impella 5.5.

We expect that our ongoing investment in manufacturing capacity and the expansion of our Impella CP SmartAssist and Impella Connect platform may decrease gross margin slightly in the near future.

Research and Development Expenses

Research and development expenses for the three months ended June 30, 2021 increased by $11.3 million, or 43%, to $37.7 million from $26.4 million for three months ended June 30, 2020. The increase in research and development expenses was primarily due to our increases in regulatory and quality hiring, ongoing product development initiatives relating to our existing and pipeline products, the development of the Impella XR Sheath™, Impella ECP™, Impella BTR™ devices and the OXY-1 System™, the expansion of our engineering organization, continued investment in our clinical trials, most notably the STEMI DTU and PROTECT IV studies, and our focus on clinical, technological and quality initiatives for our products.

We expect research and development expenses to continue to increase as we continue to increase engineering, product development and clinical spending related to our initiatives to improve our existing products and develop new technologies and conduct clinical studies. Research and development expenses can fluctuate with project timing.

Selling, General and Administrative Expenses

Selling, general and administrative expenses for the three months ended June 30, 2021 increased by $35.1 million, or 51%, to $103.5 million from $68.4 million for the three months ended June 30, 2020. The increase in selling, general and administrative expenses was primarily due to increases in hiring, and higher stock compensation expense.

We aim to continue to invest strategically in hiring and sales and marketing activities, with a particular focus on training and education to drive utilization of our Impella devices and recovery awareness for acute heart failure patients.

Operating (Loss) Income

Operating (loss) income for the three months ended June 30, 2021 decreased by $83.4 million, to $49.3 million operating loss, compared to $34.1 million operating income for the three months ended June 30, 2020. Operating margin was (19.5)% for the three months ended June 30, 2021 compared to 20.7% for the three months ended June 30, 2020. The decrease in operating (loss) income and margin was primarily due to the preCARDIA acquisition in May 2021. The acquisition was accounted for as an asset acquisition as substantially all of the fair value of the acquisition related to the acquired in-process research and development asset. Since the acquired technology platform is pre-commercial and has not reached technical feasibility, the cost of the in-process research and development asset was expensed, resulting in a charge of $115.5 million to the condensed consolidated statements of operations for the three months ended June 30, 2021.

Other Income

Other income increased by $12.9 million, to other income of $39.9 million for three months ended June 30, 2021, compared to other income of $27.0 million for three months ended June 30, 2020. This increase was primarily due to a $21.0 million gain related to our previously owned minority interest in preCARDIA recognized upon the acquisition of preCARDIA in May 2021 and a $17.6 million gain from our investment in Shockwave Medical for the three months ended June 30, 2021, compared to a $23.8 million gain from our investment in Shockwave Medical for the three months ended June 30, 2020.

Income Tax Provision

Our income tax provision was $17.2 million and $16.5 million for the three months ended June 30, 2021 and 2020, respectively. Our effective tax rate was 183.7% and 27.0% for the three months ended June 30, 2021 and 2020, respectively. The change in the effective tax rate for the three months ended June 30, 2021 is primarily due to a non-deductible charge for in-process research and development related to the preCARDIA acquisition offset by an increase in excess tax benefits related to share-based compensation, as compared to the three months ended June 30, 2020.

Net (Loss) Income

Net loss for the three months ended June 30, 2021 was $26.5 million, or $0.59 per basic share and diluted share, compared to net income of $44.6 million, or $0.99 per basic share and $0.98 per diluted share, for three months ended June 30, 2020.

The acquisition of preCARDIA contributed to the net loss for the three months ended June 30, 2021 which included the acquisition of the in-process research and development of $115.5 million partially offset by the gain of $21 million related to our previously owned minority interest.

Liquidity and Capital Resources

As of June 30, 2021, our total cash, cash equivalents and marketable securities totaled $804.8 million, a decrease of $43.0 million compared to $847.8 million at March 31, 2021. The decrease in our cash, cash equivalents and marketable securities during the three months ended June 30, 2021 was primarily due to cash used for the May 2021 preCARDIA acquisition and cash used to fund annual employee bonuses.

Following is a summary of our cash flow activities:

	For the Three Months Ended June 30,	
	2021	2020
Net cash provided by operating activities	$ 55,359	$ 31,759
Net cash (used for) provided by investing activities	(109,055)	13,756
Net cash used for financing activities	(7,470)	(20,156)
Effect of exchange rate changes on cash	3,910	(2,873)
Net (decrease) increase in cash and cash equivalents	$ (57,256)	$ 22,486

Cash Provided by Operating Activities

For the three months ended June 30, 2021, cash provided by operating activities consisted of net loss of $26.5 million, plus non-cash items of $108.7 million offset by cash used in working capital of $26.8 million. Adjustments for non-cash items consisted primarily of $115.5 million for acquired preCARDIA in-process research and development, a $21.0 million gain related to our previously owned minority interest in preCARDIA recognized upon the acquisition of preCARDIA in May 2021, a $17.6 million change in fair value of our investments in Shockwave Medical and other private medical technology companies, $12.6 million of stock-based compensation expense, $6.9 million of depreciation and amortization expense, $6.3 million in deferred tax provision, $3.5 million in inventory and other write-downs, and $0.9 million in accretion on marketable securities. The change in cash from working capital included a $8.8 million decrease in accounts receivable due to timing of collections, a $20.8 million decrease in accounts payable, accrued expenses and other liabilities offset by a $8.7 increase in prepaid expenses and other assets and a $5.8 increase in inventory due to the mix of customer demand and production.

For the three months ended June 30, 2020, cash provided by operating activities consisted of net income of $44.6 million, adjustments for non-cash items of $7.2 million and cash used in working capital of $20.0 million. The change in net income was primarily due to lower excess tax benefits and lower revenue from decreased utilization of our Impella devices and partially offset by our gain from our investment in Shockwave Medical. Adjustments for non-cash items consisted primarily of $9.3 million of stock-based compensation expense, $12.9 million in deferred tax provision, $5.5 million of depreciation and amortization expense, $1.7 million in inventory and other write-downs, and $0.1 million in accretion on marketable securities. The change in cash from working capital included a $3.0 million decrease in accounts receivable due to timing of collections, a $0.2 million increase in inventory to support demand for our Impella devices, a $24.0 million decrease in accounts payable and accrued expenses primarily due to payment of annual bonuses during the quarter ended June 30, 2020, and a $0.7 million increase in deferred revenue.

Cash Used for Investing Activities

For the three months ended June 30, 2021, net cash used for investing activities primarily consisted of $82.8 million for our acquisition of preCARDIA, $15.2 million in purchases of marketable securities (net of sales), and $7.2 million for the purchase of property and equipment primarily related to continued expansion of manufacturing capacity, office space and research development facilities in Danvers and Aachen, Germany. We also made a $3.9 million investment in private medical technology companies during the first quarter of fiscal 2022.

For the three months ended June 30, 2020, net cash provided by investing activities primarily consisted of $77.7 million in proceeds from the sale of marketable securities (net of purchases), partially offset by $10.0 million used in the purchase of property and equipment primarily related to continued expansion of manufacturing capacity, office space and research development facilities in Danvers and Aachen, Germany. We used $51.9 million in net cash for our acquisition of Breethe in April 2020. We also made an additional $2.0 million investment in a private medical technology company during fiscal 2021.

Capital expenditures for fiscal year 2022 are estimated to range from $30 million to $40 million, including, as part of long-term development of our business, additional capital expenditures for manufacturing capacity and building expansions in our Danvers and Aachen facilities and information systems development projects.

Cash Used for Financing Activities

For the three months ended June 30, 2021, net cash used for financing activities included $9.6 million in payments in lieu of issuance of common stock for payroll withholding taxes upon vesting of certain equity awards offset by $2.1 million in proceeds from the exercise of stock options.

For the three months ended June 30, 2020, net cash used for financing activities included $11.3 million for the repurchase of our common stock and $9.9 million in payments in lieu of issuance of common stock for payroll withholding taxes upon vesting of certain equity awards. This amount was offset by $1.0 million in proceeds from the exercise of stock options.

Operating Capital and Liquidity Requirements

Our sources of cash liquidity are primarily from existing cash and cash equivalents, marketable securities and cash flows from operations. On June 30, 2021, our total cash, cash equivalents, and short and long-term marketable securities totaled $804.8 million, a decrease of $43.0 million compared to $847.8 million at March 31, 2021. Marketable securities at June 30, 2021 consisted of $629.4 million held in funds that invest in U.S. Treasury securities, government-backed securities, corporate debt securities and commercial paper. We generated operating cash flows of $55.4 million and $31.8 million for the three months ended June 30, 2021 and 2020, respectively. At June 30, 2021, we had no debt outstanding. We believe that our sources of liquidity are sufficient to fund the current requirements of working capital, capital expenditures, and other financial commitments for at least the next twelve months.

Our primary liquidity requirements are to fund the following: expansion of our commercial and operational infrastructures; expansion of our manufacturing capacity and office space; the procurement and production of inventory to meet customer demand for our Impella devices; funding of new product and business development initiatives, such as the recent acquisitions of preCARDIA and Breethe; ongoing commercial launch in Japan and expansion into potential new markets; increased clinical spending; legal expenses

related to ongoing patent litigation and other legal matters; stock repurchases and payments in lieu of issuance of common stock for payroll withholding taxes upon vesting of certain equity awards and provide for general working capital needs. To date, we have primarily funded our operations through product sales and the sale of equity securities.

Our liquidity is influenced by our ability to sell our products in a competitive industry and our customers' ability to pay for our products. Factors that may affect liquidity primarily include our ability to penetrate the market for our products, our ability to maintain or reduce the length of the selling cycle for our products, our capital expenditures, and our ability to collect cash from customers after our products are sold. We continue to review our short-term and long-term cash needs on a regular basis.

As discussed in "COVID-19 Pandemic," we have taken proactive actions to mitigate the business impact of COVID-19 on our financial operations. The COVID-19 pandemic remains fluid and continues to evolve differently across various geographies. We believe we are likely to continue to experience variable impacts on our business based on some of the resurgence that occurring in cities across the globe.

Off-Balance Sheet Arrangements

We had no off-balance sheet arrangements or guarantees of third-party obligations during the periods presented. An "off-balance sheet arrangement" generally entails a transaction, agreement or other contractual arrangement to which an entity unconsolidated with us, is a party under which we have any obligation arising under a guarantee contract, derivative instrument or variable interest or a retained or contingent interest in assets transferred to such entity or similar arrangement that serves as credit, liquidity or market risk support for such assets.

Contractual Obligations and Commercial Commitments

We have various contractual obligations, which are recorded as liabilities in our condensed consolidated financial statements. Other items are not recognized as liabilities in our condensed consolidated financial statements but are required to be disclosed. There have been no material changes, outside of the ordinary course of business, to our contractual obligations as previously disclosed in our Annual Report on Form 10-K for the fiscal year ended March 31, 2021.

ITEM 3: QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

There have been no material changes to our quantitative and qualitative disclosures about market risk as compared to the quantitative and qualitative disclosures about market risk described in our Annual Report on Form 10-K for the fiscal year ended March 31, 2021.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of June 30, 2021. Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of June 30, 2021, these disclosure controls and procedures were effective to provide reasonable assurance that material information required to be disclosed by us, including our consolidated subsidiaries, in reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported, within the time periods specified in SEC rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

During the first quarter of our fiscal year ending March 31, 2022, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are from time to time involved in various legal actions, the outcomes of which are not within our complete control and may not be known for prolonged periods of time. In some actions, the claimants seek damages, as well as other relief, which, if granted, would require significant expenditures and could impair our business and results of operations. Material legal proceedings are discussed in "Note 16. Commitments and Contingencies" to our condensed consolidated financial statements and such information is incorporated herein by reference.

ITEM 1A. RISK FACTORS

Investing in our common stock involves a high degree of risk. In addition to the other information set forth in this Report, you should carefully consider the factors discussed in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended March 31, 2021, which could materially affect our business, financial condition or future results. As of the date of this Report there has been no material change in any of the risk factors described in our Annual Report on Form 10-K for the fiscal year ended March 31, 2021.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

(a) Not applicable

(b) Not applicable

(c) Not applicable

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

None.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

Exhibit No.	Description	Filed with This Form 10-Q	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
3.1	Restated Certificate of Incorporation		S-3	September 29, 1997	3.1
3.2	Amended & Restated By-Laws, as Amended and Restated February 4, 2020		10-K	May 21, 2020 (File No. 001-09585)	3.2
3.3	Amendment to the Company's Restated Certificate of Incorporation to increase the authorized shares of common stock from 25,000,000 to 100,000,000		8-K	March 21, 2007 (File No. 001-09585)	3.4
10.1	Form of Executive Officer Time-Based RSU Agreement under the Second Amended and Restated 2015 Omnibus Incentive Plan	X			
10.2	Form of Executive Officer Time-Based Stock Option Agreement under the Second Amended and Restated 2015 Omnibus Incentive Plan	X			
10.3	Form of Executive Officer Performance-Based PSU Agreement under the Second Amended and Restated 2015 Omnibus Incentive Plan	X			
31.1	Rule 13a—14(a)/15d—14(a) certification of principal executive officer	X			
31.2	Rule 13a—14(a)/15d—14(a) certification of principal accounting officer	X			
32.1	Section 1350 certification	X			
101	The following financial information from the ABIOMED, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2021, formatted in inline Extensible Business Reporting Language (XBRL): (i) Condensed Consolidated Balance Sheets as of and March 31, 2021; (ii) Condensed Consolidated Statements of Operations for the three months ended June 30, 2021 and 2020; (iii) Condensed Consolidated Statements of Comprehensive (Loss) Income for the three months ended June 30, 2021 and 2020; (iv) Condensed Consolidated Statements of Cash Flows for the three months ended June 30, 2021 and 2020; and (v) Notes to Condensed Consolidated Financial Statements.	X			
104	Cover page from the ABIOMED, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 formatted in iXBRL and contained in Exhibit 101	X			

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.

ABIOMED, Inc.

Date: August 5, 2021

/s/ TODD A. TRAPP

Todd A. Trapp

Vice President and Chief Financial Officer

(Authorized Signatory)

Name:	
Number of Restricted Stock Units:	
Date of Grant:	

ABIOMED, INC.
SECOND AMENDED AND RESTATED 2015 OMNIBUS INCENTIVE PLAN

RESTRICTED STOCK UNIT AGREEMENT (EXECUTIVE OFFICER)

This agreement (this "Agreement") evidences the grant of restricted stock units (the "Restricted Stock Units") by ABIOMED, Inc. (the "Company") to the individual named above (the "Grantee") pursuant to and subject to the terms of the ABIOMED, Inc. Second Amended and Restated 2015 Omnibus Incentive Plan (as amended from time to time, the "Plan"), which is incorporated herein by reference.

1. Grant of Restricted Stock Units. On the date of grant set forth above (the "Date of Grant") the Company granted to the Grantee an award (the "Award") consisting of the right to receive, on the terms provided herein and in the Plan, one share of Stock with respect to each Restricted Stock Unit forming part of the Award, in each case, subject to adjustment pursuant to Section 7 of the Plan in respect of transactions occurring after the date hereof.

2. Meaning of Certain Terms. Each initially capitalized term used but not separately defined herein has the meaning assigned to such term in the Plan.

3. Vesting. The term "vest" as used herein with respect to any Restricted Stock Unit means the lapsing of the restrictions described herein with respect to such Restricted Stock Unit (each such occurrence, a "Vesting Date").

(a) Unless earlier terminated, forfeited, relinquished or expired, thirty-three and one-third percent (33-1/3%) of the Restricted Stock Units shall vest on each anniversary of the Date of Grant, with the number of Restricted Stock Units that vest on any such date being rounded down to the nearest whole share and the Restricted Stock Units becoming 100% vested on the third anniversary of the Date of Grant, provided in each case that the Grantee has remained in continuous Employment from the Date of Grant through the applicable Vesting Date. Automatically and immediately upon the cessation of the Grantee's Employment for any reason the unvested portion of this Award shall terminate and be forfeited for no consideration.

(b) Notwithstanding anything in this Agreement to the contrary, if (i) a Change of Control occurs and (ii) on or after the Change of Control and on or before the first

anniversary of the Change of Control either (1) Grantee's employment is terminated without Cause or (2) Grantee terminates his or her employment with for Good Reason, then any unvested and unearned Restricted Stock Units shall become immediately vested and earned as of the date of such termination of employment and shall be settled in accordance with Section 4 of this Agreement. For purposes of this Agreement, "Good Reason" means "Good Reason" as defined in the written employment or service agreement with the Company or any subsidiary, to which the Grantee is a party, or (ii) if clause (i) does not apply, then "Good Reason" shall mean the occurrence of any of the following conditions without the Grantee's express consent: (A) a material diminution in the scope of the Grantee's duties and authority; or (B) a relocation of the Grantee's principal place of work to a location more than fifty (50) miles from Grantee's current principal location of employment (unless such new location is closer to the primary residence of the Grantee). Notwithstanding the foregoing, the Grantee's resignation shall not be deemed to have occurred for "Good Reason" unless the Grantee provides the Company with a written notice of Good Reason termination within sixty (60) days after the occurrence of an event giving rise to a claim of Good Reason, and the Company shall have thirty (30) days thereafter in which to cure or resolve the behavior otherwise constituting Good Reason, or to dispute such resignation for Good Reason and the Grantee resigns his or her employment as a result at the end of such thirty (30)-day period.

4. Delivery of Stock. The Company shall deliver to the Grantee as soon as practicable upon the vesting of the Restricted Stock Units (or any portion thereof), but in all events no later than thirty (30) days following the date on which such Restricted Stock Units vest, one share of Stock with respect to each such vested Restricted Stock Unit, subject to the terms of the Plan and this Agreement.

5. Dividends, *etc*. The Grantee shall have the rights of a shareholder with respect to a share of Stock subject to the Award only at such time, if any, as such share is actually delivered under the Award. Without limiting the generality of the foregoing and for the avoidance of doubt, the Grantee shall not be entitled to vote any share of Stock subject to the Award or to receive or be credited with any dividend or other distribution declared and payable on any such share unless and until such share has been actually delivered hereunder and is held by the Grantee on the record date for such vote or dividend (or other distribution), as the case may be.

6. Certain Tax Matters.

(a) The Grantee expressly acknowledges and agrees that the Grantee's rights hereunder, including the right to be issued shares of Stock upon the vesting of the Restricted Stock Units (or any portion thereof), are subject to the Grantee's promptly paying, or in respect of any later requirement of withholding being liable promptly to pay at such time as such withholdings are due, to the Company in cash (or by such other means as may be acceptable to the Administrator in its discretion) all taxes required to be withheld, if any (the "Withholding Obligation").

(b) By accepting this Award, the Grantee hereby acknowledges that the Company will hold back whole shares of Stock otherwise deliverable pursuant to this Agreement, as applicable,

having a Fair Market Value sufficient to satisfy the Withholding Obligation (but not in excess of the applicable minimum statutory withholding obligations or such greater amount that would not result in adverse accounting consequences to the Company).

7. Forfeiture/Recovery of Compensation. By accepting the Award, the Grantee expressly acknowledges and agrees that his or her rights, and those of any permitted transferee, under the Award or to any Stock acquired under the Award or proceeds from the disposition thereof, are subject to Section 6(a)(5) of the Plan (including any successor provision). (Nothing in the preceding sentence shall be construed as limiting the general application of Section 10 of this Agreement.)

In furtherance of the foregoing and as a condition of eligibility for the Award granted hereunder, and participation in the Plan, the Grantee understands and agrees that if his/her employment with the Company terminates for any reason (whether voluntary or involuntary), and the Grantee engages in any Prohibited Activity (as defined below) within two years after such termination, the Grantee will repay to the Company the economic value of the Award, which results or resulted from the Grantee's exercise at any time after the date which is twelve months prior to the date of the Grantee's termination of employment. For purposes hereof, the economic value to be repaid is the market price per share at the time of exercise or vesting over the exercise price (if any) per share, multiplied by the number of shares so exercised or vested, without regard to any subsequent market price decrease or increase, reduced by any statutory income taxes paid by the Grantee with respect to income recognized in connection with any exercise or vesting. For purposes hereof, the economic value with respect to any Award exercised or vested during a period in which the Grantee is an employee of the Company shall be presumed to be the amount reported as employment income by the Company. For any period after the Grantee has ceased to be an employee of the Company, the economic value shall be calculated by using the high and low price on the date of exercise and vesting, unless there is actual price information available.

A. The Grantee engages in a Prohibited Activity if he/she:

(i) directly, for his/her own account or for any other person, as agent, employee, officer, director, trustee, consultant, owner, partner, or shareholder, or any other capacity:

(ii) hires or attempts to hire or assist any other person in hiring or attempting to hire any employee of the Company; or

(iii) encourages or assists any other person in encouraging any director, officer, employee, agent, consultant or any other person affiliated with the Company to terminate or alter his/her or its relationship with the Company; or

(iv) encourages or assists any other person in encouraging any customer or supplier of the Company to terminate or alter its relationship with the Company; or

(v) sells or markets or assists any other person in selling or marketing any product or service that competes, directly or indirectly with any product or service manufactured, sold or under development by the Company at the time the Grantee's employment with the Company is terminated (to include the Company's service of providing specialized clinical education and training to healthcare professionals in the interventional cardiology space); or

(vi) researches, develops or manufactures or assists any other person in researching, developing or manufacturing any product or service that competes with any product or service conceived, manufactured, sold or under development by the Company at the time the Grantee's employment with the Company is terminated.

B. In order to assure that the Grantee does not breach any of the foregoing provisions, the Grantee agrees that for a period of two (2) years following the termination of his/her employment with the Company, he/she will not accept employment with, advise, provide consulting services to or acquire any interest in (other than an investment interest of less than 5% of the total outstanding shares of a publicly traded company) any business that directly or indirectly competes with any product or service manufactured, sold or under development by the Company or that utilizes or benefits from the same type of training provided by the Company without first obtaining the Company's written consent. Such businesses include, but are not necessarily limited to, MAQUET Cardiovascular, LLC (The Getinge Group), Abbott Laboratories, Edwards Life Sciences, Cardiovascular Systems, Inc. (CSI), Procyrion, Inc., The Terumo Group, Fresenius Medical Care, Zoll Medical Corp., Boston Scientific, Medtronic PLC, LivaNova PLC (Cardiac Assist, Inc.), Magenta Medical Ltd., Hemovent GmbH and ALung Technologies, Inc., and any group, division or subsidiary of any of the foregoing. The Company shall be permitted to withhold such consent in its sole discretion, unless the Grantee and the prospective employer are able to provide the Company with assurances reasonably satisfactory to the Company in its sole discretion that the Grantee will not be assisting the prospective employer in any of the prohibited endeavors listed in paragraph A. above.

8. Transfer of Award. Neither the Award nor the Restricted Stock Units may be transferred except at death in accordance with Section 6(a)(3) of the Plan.

9. Form S-8 Prospectus. The Grantee acknowledges that he or she has received and reviewed a copy of the prospectus required by Part I of Form S-8 relating to shares of Stock that may be issued pursuant to the Award under the Plan.

10. Acknowledgments. By accepting the Award, the Grantee agrees to be bound by, and agrees that the Award is, and the Restricted Stock Units are, subject in all respects to, the terms of the Plan. In the event of any conflict between the terms of this Agreement and the Plan, the terms of the Plan shall control. The Grantee further acknowledges and agrees that (a) the signature to this Agreement on behalf of the Company is an electronic signature that will be treated as an original signature for all purposes hereunder and (b) such electronic signature will be binding against the Company and will create a legally binding agreement when this Agreement is countersigned by the Grantee.

[The remainder of this page is intentionally left blank]

Executed as of the ___ day of [MONTH], [YEAR].

Company: ABIOMED, INC.

By: _____
Name:
Title:

Grantee: _____
Name:
Address:

[Signature Page to Restricted Stock Unit Agreement]

Name:	
Number of Shares of Stock Subject to Stock Option:	
Exercise Price Per Share:	
Date of Grant:	

ABIOMED, INC.

SECOND AMENDED AND RESTATED 2015 OMNIBUS INCENTIVE PLAN

NON-STATUTORY STOCK OPTION AGREEMENT (EXECUTIVE OFFICER)

This agreement (this "Agreement") evidences the grant of a stock option by ABIOMED, Inc. (the "Company") to the individual named above (the "Optionee") pursuant to and subject to the terms of the ABIOMED, Inc. Second Amended and Restated 2015 Omnibus Incentive Plan (as amended from time to time, the "Plan"), which is incorporated herein by reference.

1. Grant of Stock Option. On the date of grant set forth above (the "Date of Grant") the Company granted to the Optionee an option (the "Stock Option") to purchase, on the terms provided herein and in the Plan, up to the number of shares of Stock set forth above (each, a "Share," and collectively, the "Shares") at the exercise price per Share set forth above, in each case, subject to adjustment pursuant to Section 7 of the Plan in respect of transactions occurring after the date hereof.

The Stock Option evidenced by this Agreement is a non-statutory option (that is, an option that is not to be treated as a stock option described in subsection (b) of Section 422 of the Code). The Optionee is an employee of the Company and/or of one or more subsidiaries of the Company with respect to which the Company has a "controlling interest" as described in Treas. Regs. §1.409A-1(b)(5)(iii)(E)(1).

2. Meaning of Certain Terms. Each initially capitalized term used but not separately defined herein has the meaning assigned to such term in the Plan.

3. Vesting; Method of Exercise.

(a) Unless earlier terminated, forfeited, relinquished or expired, thirty-three and one-third percent (33-1/3%) of the Stock Option shall vest on each anniversary of the Date of Grant, with the number of Shares that vest on any date being rounded down to the nearest whole Share and the Stock Option becoming vested as to 100% of the Shares on the third anniversary of the Date of Grant, provided in each case that the Optionee has remained in continuous Employment from the Date of Grant through the applicable vesting date.

(b) Notwithstanding anything in this Agreement to the contrary, if (i) a Change of Control occurs and (ii) on or after the Change of Control and on or before the first anniversary of the Change of Control either (1) Optionee's employment is terminated without Cause or (2) Optionee terminates his or her Employment with for Good Reason, then any unvested portion of the Stock Option shall become immediately vested as of the date of such termination of Employment. "Good Reason" means "Good Reason" as defined in the written employment or service agreement with the Company or any subsidiary, to which the Optionee is a party, or (ii) if clause (i) does not apply, then "Good Reason" shall mean the occurrence of any of the following conditions without the Optionee's express consent: (A) a material diminution in the scope of the Optionee's duties and authority; or (B) a relocation of the Optionee's principal place of work to a location more than fifty (50) miles from Optionee's current principal location of employment (unless such new location is closer to the primary residence of the Optionee).

Notwithstanding the foregoing, the Optionee's resignation shall not be deemed to have occurred for "Good Reason" unless the Optionee provides the Company with a written notice of Good Reason termination within sixty (60) days after the occurrence of an event giving rise to a claim of Good Reason, and the Company shall have thirty (30) days thereafter in which to cure or resolve the behavior otherwise constituting Good Reason, or to dispute such resignation for Good Reason and the Optionee resigns his or her Employment as a result at the end of such thirty (30)-day period.

(c) No portion of the Stock Option may be exercised until it vests. Each election to exercise any vested portion of the Stock Option will be subject to the terms and conditions of the Plan and shall be in a form acceptable to the Administrator signed by the Optionee (or legally appointed representative, in the event of the Optionee's disability) or the person or persons to whom the Stock Option is transferred by will or the applicable laws of descent and distribution. Each such election must be received by the Company at its principal office or by such other party as the Administrator may prescribe and be accompanied by payment in full as provided in the Plan. The exercise price may be paid by cash or check acceptable to the Administrator or by such other means provided for in the Plan, to the extent permitted by the Administrator. In the event that the Stock Option is exercised by a person other than the Optionee, the Company will be under no obligation to deliver Shares hereunder unless and until it is satisfied as to the authority of such individual to exercise the Stock Option and compliance with applicable securities laws. Subject to Section 6(a)(4) of the Plan, the latest date on which the Stock Option or any portion thereof may be exercised will be the 10th anniversary of the Date of Grant (the "Final Exercise Date"). Any portion of the Stock Option that remains outstanding and has not been exercised by the Final Exercise Date will thereupon immediately terminate. Upon any earlier termination of Employment, the provisions of Section 6(a)(4) of the Plan shall apply.

4. Forfeiture; Recovery of Compensation. By accepting the Stock Option, the Optionee expressly acknowledges and agrees that his or her rights, and those of any permitted transferee, under the Stock Option or to any Stock acquired under the Stock Option or proceeds from the disposition thereof, are subject to Section 6(a)(5) of the Plan (including any successor provision). (Nothing in the preceding sentence shall be construed as limiting the general application of Section 8 of this Agreement.)

In furtherance of the foregoing and as a condition of eligibility for the Stock Option granted hereunder, and participation in the Plan, the Optionee understands and agrees that if his/her Employment with the Company terminates for any reason (whether voluntary or involuntary), and the Optionee engages in any Prohibited Activity (as defined below) within two years after such termination, the Optionee will repay to the Company the economic value of the Stock Option, which results or resulted from the Optionee's exercise at any time after the date which is twelve months prior to the date of the Optionee's termination of Employment. For purposes hereof, the economic value to be repaid is the market price per share at the time of exercise or vesting over the exercise price (if any) per share, multiplied by the number of shares so exercised or vested, without regard to any subsequent market price decrease or increase, reduced by any statutory income taxes paid by the Optionee with respect to income recognized in connection with any exercise or vesting. For purposes hereof, the economic value with respect to any Stock Option exercised or vested during a period in which the Optionee is an employee of the Company shall be presumed to be the amount reported as employment income by the Company. For any period after the Optionee has ceased to be an employee of the Company, the economic value shall be calculated by using the high and low price on the date of exercise and vesting, unless there is actual price information available.

A. The Optionee engages in a Prohibited Activity if he/she:

(i) directly, for his/her own account or for any other person, as agent, employee, officer, director, trustee, consultant, owner, partner, or shareholder, or any other capacity:

(ii) hires or attempts to hire or assist any other person in hiring or attempting to hire any employee of the Company; or

(iii) encourages or assists any other person in encouraging any director, officer, employee, agent, consultant or any other person affiliated with the Company to terminate or alter his/her or its relationship with the Company; or

(iv) encourages or assists any other person in encouraging any customer or supplier of the Company to terminate or alter its relationship with the Company; or

(v) sells or markets or assists any other person in selling or marketing any product or service that competes, directly or indirectly with any product or service manufactured, sold or under development by the Company at the time the Optionee's Employment with the Company is terminated (to include the Company's service of providing specialized clinical education and training to healthcare professionals in the interventional cardiology space); or

(vi) researches, develops or manufactures or assists any other person in researching, developing or manufacturing any product or service that competes with any product or service conceived, manufactured, sold or under development by the Company at the time the Optionee's Employment with the Company is terminated.

B. In order to assure that the Optionee does not breach any of the foregoing provisions, the Optionee agrees that for a period of two (2) years following the termination of his/her Employment with the Company, he/she will not accept Employment with, advise, provide consulting services to or acquire any interest in (other than an investment interest of less than 5% of the total outstanding shares of a publicly traded company) any business that directly or indirectly competes with any product or service manufactured, sold or under development by the Company or that utilizes or benefits from the same type of training provided by the Company without first obtaining the Company's written consent. Such businesses include, but are not necessarily limited to MAQUET Cardiovascular, LLC (The Getinge Group), Abbott Laboratories, Edwards Life Sciences, Cardiovascular Systems, Inc. (CSI), Procyrion, Inc., The Terumo Group, Fresenius Medical Care, Zoll Medical Corp., Boston Scientific, Medtronic PLC, LivaNova PLC (Cardiac Assist, Inc.), Magenta Medical Ltd., Hemovent GmbH and ALung Technologies, Inc. and any group, division or subsidiary of any of the foregoing. The Company shall be permitted to withhold such consent in its sole discretion, unless the Optionee and the prospective employer are able to provide the Company with assurances reasonably satisfactory to the Company in its sole discretion that the Optionee will not be assisting the prospective employer in any of the prohibited endeavors listed in paragraph A. above.

5. Transfer of Stock Option. The Stock Option may not be transferred except at death in accordance with Section 6(a)(3) of the Plan.

6. Taxes.

(a) The exercise of the Stock Option will give rise to "wages" subject to withholding. The Optionee expressly acknowledges and agrees that the Optionee's rights hereunder, including the right to be issued shares of Stock upon the exercise of the Stock Option (or any portion thereof), are subject to the Optionee promptly paying, or in respect of any later requirement of withholding being liable promptly to pay at such time as such withholdings are due, to the Company in cash (or by such other means as may be acceptable to the Administrator in its discretion) all taxes required to be withheld, if any (the "Withholding Obligation").

(b) By accepting this Award, the Optionee hereby acknowledges that the Company will hold back whole shares of Stock otherwise deliverable pursuant to this Agreement, as applicable, having a Fair Market Value sufficient to satisfy the Withholding Obligation (but not in excess of the applicable minimum statutory withholding obligations or such greater amount that would not result in adverse accounting consequences to the Company).

7. Form S-8 Prospectus. The Optionee acknowledges that he or she has received and reviewed a copy of the prospectus required by Part I of Form S-8 relating to shares of Stock that may be issued pursuant to the exercise of the Stock Option under the Plan.

8. Acknowledgments. By accepting the Stock Option, the Optionee agrees to be bound by, and agrees that the Stock Option is subject in all respects to, the terms of the Plan and this Agreement. In the event of any conflict between the terms of this Agreement and the Plan, the terms of the Plan shall control. The Optionee further acknowledges and agrees that (a) the signature to this Agreement on behalf of the Company is an electronic signature that will be treated as an original signature for all purposes hereunder and (b) such electronic signature will be binding against the Company and will create a legally binding agreement when the Stock Option is electronically accepted by the Optionee.

[The remainder of this page is intentionally left blank]

Executed as of the [●] day of [MONTH], [YEAR].

Company:

ABIOMED, INC.

By:
Name:
Title:

Optionee:

Name:
Address

Exhibit 10.3

ABIOMED, INC.
Second Amended & Restated 2015 Omnibus Incentive Plan

Notice of Restricted Stock Unit Grant

Grantee:[l]

Company: ABIOMED, Inc.

Notice: The Grantee has been granted the following Restricted Stock Units in accordance with the terms of this notice (the "Grant Notice"), the Restricted Stock Unit Award Agreement attached hereto as Attachment A (the "RSU Award Agreement", and together with the Grant Notice, this "Agreement") and the Plan identified below.

Type of Award: Restricted Stock Units

Plan: ABIOMED, Inc. Second Amended & Restated 2015 Omnibus Incentive Plan, as amended from time to time (the "Plan")

Date of Grant: May 25, 2021

Target Number: [l]

Performance Period:

Revenue Period
The Revenue Period begins on April 1, 2021 and ends on March 31, 2022.

Relative TSR Period
The Relative TSR Period begins on April 1, 2021 and ends on March 31, 2024.

Vesting: Vesting of the earned Restricted Stock Units will be subject to the Grantee's continuous Employment on the date that the Compensation Committee certifies that the applicable Revenue and Relative TSR performance goals have been satisfied following the completion of each applicable Performance Period (i.e., PSUs subject to Revenue and Relative TSR will cliff vest after 3 years).

ABIOMED, INC.
SECOND AMENDED & RESTATED 2015 OMNIBUS INCENTIVE PLAN

RESTRICTED STOCK UNIT AGREEMENT (EXECUTIVE OFFICER)

This agreement (this "Agreement") evidences the grant of restricted stock units (the "Restricted Stock Units") by ABIOMED, Inc. (the "Company") to the individual (the "Grantee") named in the Notice of Restricted Stock Unit Grant to which this Agreement is attached (the "Grant Notice"), pursuant to and subject to the terms of the ABIOMED, Inc. Second Amended and Restated 2015 Omnibus Incentive Plan (as amended from time to time, the "Plan"), which is incorporated herein by reference.

1. Grant of Restricted Stock Units. On the Date of Grant, the Company granted to the Grantee an award (the "Award") consisting of the right to receive, on the terms provided herein and in the Plan, one share of Stock with respect to each Restricted Stock Unit forming part of the Award, in each case, subject to adjustment pursuant to Section 7 of the Plan in respect of transactions occurring after the date hereof. The number of Restricted Stock Units set forth in the Grant Notice reflects the target number of shares of Stock (the "Target Number") that the Grantee is eligible to receive under the Award if the performance-vesting conditions described below are satisfied at the achievement level of 100% of the Target Number and the time-vesting condition is also satisfied. The maximum number of shares of Stock the Grantee is eligible to receive under the Award is equal to two and one half (2.5) times the number of Restricted Stock Units set forth in the Grant Notice.

2. Meaning of Certain Terms. Each initially capitalized term used but not separately defined herein has the meaning assigned to such term in the Plan. In addition, the following terms shall have the meanings set forth below:

(a) "Good Reason" means "Good Reason" as defined in the written employment or service agreement with the Company or any subsidiary, to which the Grantee is a party, or (ii) if clause (i) does not apply, then "Good Reason" shall mean the occurrence of any of the following conditions without the Grantee's express consent: (A) a material diminution in the scope of the Grantee's duties and authority; or (B) a relocation of the Grantee's principal place of work to a location more than fifty (50) miles from Grantee's current principal location of employment (unless such new location is closer to the primary residence of the Grantee). Notwithstanding the foregoing, the Grantee's resignation shall not be deemed to have occurred for "Good Reason" unless the Grantee provides the Company with a written notice of Good Reason termination within sixty (60) days after the occurrence of an event giving rise to a claim of Good Reason, and the Company shall have thirty (30) days thereafter in which to cure or resolve the behavior otherwise constituting Good Reason, or to dispute such resignation for Good Reason and the

Grantee resigns his or her Employment as a result at the end of such thirty (30)-day period.

(b) "Peer Group" means Edwards Lifesciences Corporation, Hologic, Inc., ResMed Inc., Teleflex, Incorporated, Avanos Medical, Inc., Align Technology, Inc., Integra LifeSciences Holdings Corporation, NuVasive, Inc., Haemonetics Corporation, CONMED Corporation, ICU Medical, Inc., Cantel Medical Corp., Masimo Corporation, Merit Medical Systems, Inc., DexCom, Inc., Globus Medical, Inc., Natus Medical Incorporated, Penumbra, Inc., Nevro Corp., and Inogen, Inc., provided, however, the Peer Group may be adjusted or changed by the Compensation Committee as circumstances warrant, including, without limitation, the following: (i) if a Peer Group company is acquired by another company, including through a management buy-out or going-private transaction, the acquired company will be removed from the Peer Group for the entire relevant period of measurement, (ii) if a Peer Group company becomes bankrupt, the bankrupt company will remain in the Peer Group, with such bankrupt companies being deemed to have a total shareholder return of negative 100%; (iii) if the Company's or any Peer Group company's stock splits (or if there are other similar subdivisions, consolidations or changes in such company's stock or capitalization), such company's stock price will be adjusted for the stock split so as not to give an advantage or disadvantage to such company by comparison to the other Peer Group companies; or (iv) if a Peer Group company ceases to be publicly traded during the Relative TSR Period (as set forth in the Grant Notice), it will not be treated as part of the Peer Group.

(c) "Revenue" means the Company's revenue during the Revenue Period.

(d) "TSR" is the total shareholder return measured by dividing (A) the sum of (1) the dividends paid (regardless of whether paid in cash or property) on shares of Stock during the Relative TSR Period (as set forth in the Grant Notice), assuming reinvestment of such dividends in such stock (based on the closing price of such stock on the *ex dividend* date), plus (2) the difference between the average closing price of a share of Stock on the principal United States exchange on which such stock trades for the twenty (20) trading days occurring immediately prior to the first day of the Performance Period (the "Beginning Average Value") and the average closing price of a share of such stock on the principal United States exchange on which such stock trades for the twenty (20) trading days immediately prior to and including the last day of the Relative TSR Period, as applicable (appropriately adjusted for any stock dividend, stock split, spin-off, merger or other similar corporate events affecting such stock), by (B) the Beginning Average Value.

3. Vesting. The term "vest" as used herein with respect to any Restricted Stock Unit means the lapsing of the restrictions described herein with respect to such Restricted Stock Unit. Restricted Stock Units shall only vest, and shares of Stock shall only be issued to the Grantee in respect of such Restricted Stock Units, to the extent that both the performance-based vesting conditions and time-based vesting condition set forth below are satisfied.

(a) Performance Goals. The performance goals for the Performance Period are based on (i) Company's "Revenue", which is the Company's revenue during the Revenue Period, as set for in Section 3(b) below; and (ii) Company's "Relative TSR", which is the rank (by percentile) of the TSR of the Company relative to the TSR of the companies in the Peer Group during the Relative TSR Period, as set forth in Section 3(b) below, equal to the product of (x) the quotient of (A) the numeric rank of Company's TSR relative to the Peer Group, where the lowest TSR in the Peer Group is ranked number 1, and (B) the total number of companies in the Peer Group plus 1, rounded to the nearest hundredth. All determinations under this Section 3 shall be made by the Compensation Committee.

(b) Earned Percentage. Except as provided in Section 3(e) hereof, the Restricted Stock Units shall be earned based on the Company's Revenue Earned Percentage (the "Revenue Earned Percentage") and Relative TSR Earned Percentage (the "TSR Earned Percentage"), each as determined from the relevant tables below (with any Revenue Earned Percentage and Relative TSR Earned Percentage between the levels set forth in the Revenue and Relative TSR schedules determined by linear interpolation).

REVENUE
[Redacted]

RELATIVE TSR
[Redacted]

(c) Base Revenue Restricted Stock Units Amount. The number of Restricted Stock Units earned as determined by the Revenue schedule in 3(b) above (the "Base Revenue Restricted Stock Units Amount") shall be the product of the Target Number multiplied by the Revenue Earned Percentage determined at the end of the Revenue Period.

(d) Total Earned Restricted Stock Units. The number of Restricted Stock Units earned (the "Total Earned Restricted Stock Units") shall be the product of the Base Revenue Restricted Stock Units Amount multiplied by the Relative TSR Earned Percentage determined at the end of the Relative TSR Period. Notwithstanding the foregoing, if the Company's absolute TSR for the Relative TSR Period is negative, in no event shall

the Relative TSR Earned Percentage be more than one hundred percent (100%). To the extent that the Restricted Stock Units do not become Earned Restricted Stock Units pursuant to this Section 3, such Restricted Stock Units shall be automatically forfeited.

(e) Time-Vesting Requirement. Vesting of each portion of the Total Earned Restricted Stock Units shall be subject to the Grantee's continuous Employment on the date that the Compensation Committee certifies that the applicable Revenue and Relative TSR performance goals have been satisfied following the completion of all Performance Periods (the "Vesting Date"). The Compensation Committee will certify the Company's Revenue and Relative TSR over the applicable Performance Period as promptly as is reasonably possible following the completion of the Performance Period.

(f) Change of Control. In the event of a Change of Control, and provided that the Restricted Stock Units have not been forfeited prior to the date of such Change of Control, then:

(i) *Restricted Stock Units are not Assumed or Replaced*. If upon the occurrence of a Change of Control, the Restricted Stock Units are not converted, assumed, or replaced by a successor with an economically equivalent award, then the time-vesting requirement set forth in Section 3(d) hereof shall become immediately and fully vested upon the closing of the Change of Control and to the extent then outstanding and unvested, 100% of the Target Number of Restricted Stock Units shall be immediately and fully vested upon the closing of the Change of Control, provided, however, the Compensation Committee (as constituted immediately prior to the applicable Change of Control) may elect to provide that between 100% and 250% of the Target Number of Restricted Stock Units shall be immediately and fully vested upon the closing of the Change of Control. Any accelerated vesting pursuant to this Section 3(e) upon a Change of Control is subject to the Grantee having remained in continuous Employment from the Date of Grant through the closing of such Change of Control. The Restricted Stock Units shall be settled within fifteen (15) days following the consummation of the Change of Control.

(ii) *Restricted Stock Units are Assumed or Replaced.* If upon the occurrence of a Change of Control, the Restricted Stock Units are converted, assumed, or replaced by a successor with an economically equivalent award, then any unvested and unearned Restricted Stock Units shall become immediately earned and vested upon the Grantee's termination of Employment by the Company without Cause or resignation for Good Reason, in each case, on or

before the first anniversary of the Change of Control, assuming achievement of the performance goals at 100% of the Target Number, provided, however, the Compensation Committee may elect to provide that between 100% and 250% of the Target Number of Restricted Stock Units shall be immediately and fully vested upon such termination of Employment. The Restricted Stock Units will be settled within thirty (30) days following such termination of Employment.

4. Forfeiture Risk. Automatically and immediately upon the cessation of the Grantee's Employment for any reason, the unvested portion of the Award shall terminate and be forfeited for no consideration.

5. Delivery of Stock. Except as otherwise provided in Section 3(e) of this Agreement, the Company shall deliver to the Grantee as soon as practicable upon the vesting of the Restricted Stock Units (or any portion thereof), but in all events no later than thirty (30) days following the applicable Vesting Date, one share of Stock with respect to each such vested Restricted Stock Unit, subject to the Grantee remaining in continuous Employment on such payment date, the terms of the Plan and this Agreement, and satisfaction of applicable tax withholding obligations with respect thereto in accordance with Section 7 of this Agreement. Notwithstanding the foregoing provisions of this Section 5 to the contrary, if at the time of the Grantee's separation from service within the meaning of Code Section 409A, the Grantee is a "specified employee" within the meaning of Code Section 409A, any payment hereunder that constitutes a "deferral of compensation" under Code Section 409A and that would otherwise become due on account of such separation from service shall be delayed, and payment shall be made in full upon the earlier to occur of (i) a date during the 31-day period commencing six months and one day following such separation from service and (ii) the date of the Grantee's death.

6. Dividends, *etc*. The Grantee shall have the rights of a shareholder with respect to a share of Stock subject to the Award only at such time, if any, as such share is actually delivered under the Award. Without limiting the generality of the foregoing and for the avoidance of doubt, the Grantee shall not be entitled to vote any share of Stock subject to the Award or to receive or be credited with any dividend or other distribution declared and payable on any such share unless and until such share has been actually delivered hereunder and is held by the Grantee on the record date for such vote or dividend (or other distribution), as the case may be.

7. Certain Tax Matters.

(a) The Grantee expressly acknowledges and agrees that the Grantee's rights hereunder, including the right to be issued shares of Stock upon the vesting of the Restricted Stock Units (or any portion thereof), are subject to the Grantee's promptly paying, or in respect of any later requirement of withholding being liable promptly to pay at such time as such withholdings are due, to the Company in cash (or by such other means as may be

acceptable to the Administrator in its discretion) all taxes required to be withheld, if any (the "Withholding Obligation").

(b) By accepting this Award, the Grantee hereby acknowledges that the Company will hold back whole shares of Stock otherwise deliverable pursuant to this Agreement, as applicable, having a Fair Market Value sufficient to satisfy the Withholding Obligation (but not in excess of the applicable minimum statutory withholding obligations or such greater amount that would not result in adverse accounting consequences to the Company).

(c) The Grantee expressly acknowledges that because the Award consists of an unfunded and unsecured promise by the Company to deliver Stock in the future, subject to the terms hereof, it is not possible to make a so-called "83(b) election" with respect to the Award.

8. Forfeiture; Recovery of Compensation.

(a) By accepting the Award, the Grantee expressly acknowledges and agrees that his or her rights, and those of any permitted transferee, under the Award or to any Stock acquired under the Award or proceeds from the disposition thereof, are subject to Section 6(a)(5) of the Plan (including any successor provision). Nothing in the preceding sentence shall be construed as limiting the general application of Section 11 of this Agreement.

(b) In furtherance of the foregoing and as a condition of eligibility for the Award granted hereunder, and participation in the Plan, the Grantee understands and agrees that if his/her Employment with the Company terminates for any reason (whether voluntary or involuntary), and the Grantee engages in any Prohibited Activity (as defined below) within two years after such termination, the Grantee will repay to the Company the economic value of the Award, which results or resulted from the Grantee's exercise at any time after the date which is twelve months prior to the date of the Grantee's termination of Employment. For purposes hereof, the economic value to be repaid is the market price per share at the time of exercise or vesting over the exercise price (if any) per share, multiplied by the number of shares so exercised or vested, without regard to any subsequent market price decrease or increase, reduced by any statutory income taxes paid by the Grantee with respect to income recognized in connection with any exercise or vesting. For purposes hereof, the economic value with respect to any Award exercised or vested during a period in which the Grantee is an employee of the Company shall be presumed to be the amount reported as employment income by the Company. For any period after the Grantee has ceased to be an employee of the Company, the economic value shall be calculated by using the high and low price on the date of exercise and vesting, unless there is actual price information available.

(c) The Grantee engages in a Prohibited Activity if he/she:

(i) directly, for his/her own account or for any other person, as agent, employee, officer, director, trustee, consultant, owner, partner, or shareholder, or any other capacity:

(ii) hires or attempts to hire or assist any other person in hiring or attempting to hire any employee of the Company; or

(iii) encourages or assists any other person in encouraging any director, officer, employee, agent, consultant or any other person affiliated with the Company to terminate or alter his/her or its relationship with the Company; or

(iv) encourages or assists any other person in encouraging any customer or supplier of the Company to terminate or alter its relationship with the Company; or

(v) sells or markets or assists any other person in selling or marketing any product or service that competes, directly or indirectly with any product or service manufactured, sold or under development by the Company at the time the Grantee's Employment with the Company is terminated (to include the Company's service of providing specialized clinical education and training to healthcare professionals in the interventional cardiology space); or

(vi) researches, develops or manufactures or assists any other person in researching, developing or manufacturing any product or service that competes with any product or service conceived, manufactured, sold or under development by the Company at the time the Grantee's Employment with the Company is terminated.

(d) In order to assure that the Grantee does not breach any of the foregoing provisions, the Grantee agrees that for a period of two (2) years following the termination of his/her Employment with the Company, he/she will not accept Employment with, advise, provide consulting services to or acquire any interest in (other than an investment interest of less than 5% of the total outstanding shares of a publicly traded company) any business that directly or indirectly competes with any product or service manufactured, sold or under development by the Company or that utilizes or benefits from the same type of training provided by the Company without first obtaining the Company's written consent. Such businesses include, but are not necessarily limited to, MAQUET Cardiovascular, LLC (The Getinge Group), Abbott Laboratories, Edwards Life Sciences, Cardiovascular Systems, Inc. (CSI), Procyrion, Inc., The Terumo Group, Fresenius Medical Care, Zoll Medical Corp., Boston Scientific, Medtronic PLC, LivaNova PLC (Cardiac Assist, Inc.), Magenta Medical Ltd., Hemovent GmbH and ALung Technologies, Inc. and any group, division or subsidiary of any of the foregoing. The Company shall be permitted to withhold such consent in its sole discretion, unless the Grantee and the prospective employer are able to provide the Company with assurances reasonably satisfactory to the Company in its sole discretion that the Grantee will not be assisting the prospective employer in any of the prohibited endeavors listed in Section 8(c) above.

9. Transfer of Award. Neither the Award nor the Restricted Stock Units may be transferred except at death in accordance with Section 6(a)(3) of the Plan.

10. Form S-8 Prospectus. The Grantee acknowledges that he or she has received and reviewed a copy of the prospectus required by Part I of Form S-8 relating to shares of Stock that may be issued pursuant to the Award under the Plan.

11. Acknowledgments. By accepting the Award, the Grantee agrees to be bound by, and agrees that the Award is, and the Restricted Stock Units are, subject in all respects to, the terms of the Plan. In the event of any conflict between the terms of this Agreement and the Plan, the terms of the Plan shall control. The Grantee further acknowledges and agrees that (a) the signature to this Agreement on behalf of the Company is an electronic signature that will be treated as an original signature for all purposes hereunder and (b) such electronic signature will be binding against the Company and will create a legally binding agreement when this Agreement is countersigned by the Grantee.

[The remainder of this page is intentionally left blank]

Executed as of the ___ day of [MONTH], 2021.

Company: ABIOMED, INC.

By: _____

Name:
Title:

Grantee: /ParticipantName/

Name:

Address:

[Signature Page to Restricted Stock Unit Agreement (Section 16 Officer)]

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULE 13A-14(A)/15D-14(A), AS ADOPTED
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael R. Minogue, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended June 30, 2021 of ABIOMED, Inc.

2. Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;

3. Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this Report based on such evaluation; and

(d) Disclosed in this Report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 5, 2021

/s/ Michael R. Minogue
Michael R. Minogue
Chairman, President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULE 13A-14(A)/15D-14(A), AS ADOPTED
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Todd A. Trapp, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended June 30, 2021 of ABIOMED, Inc.

2. Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;

3. Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this Report based on such evaluation; and

(d) Disclosed in this Report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 5, 2021

/s/ TODD A. TRAPP
Todd A. Trapp
Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of ABIOMED, Inc., (the "Company") for the quarter ended June 30, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned Chairman, President and Chief Executive Officer and Vice President and Chief Financial Officer of the Company, certifies, to the best knowledge and belief of said signatory, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 that:

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

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

/s/ MICHAEL R. MINOGUE
Michael R. Minogue
Chairman, President and Chief Executive Officer
(*Principal Executive Officer*)
Date: August 5, 2021

/s/ TODD A. TRAPP
Todd A. Trapp
Vice President and Chief Financial Officer
(*Principal Financial Officer*)
Date: August 5, 2021