REPLIGEN CORP
Form 10-Q
August 03, 2017
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended June 30, 2017

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 000-14656

REPLIGEN CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**04-2729386**
(State or other jurisdiction of	**(I.R.S. Employer**
incorporation or organization)	**Identification No.)**
41 Seyon Street, Bldg. 1, Suite 100	
Waltham, MA	**02453**
(Address of principal executive offices)	**(Zip Code)**

Registrant s telephone number, including area code: (781) 250-0111

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting 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. (Check one):

Large accelerated filer	Accelerated filer
Non-accelerated filer (Do not check if a smaller reporting company)	Smaller reporting company
	Emerging growth company

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

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 or Rule 12b-2 of the Securities Exchange Act of 1934. 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 the number of shares outstanding of each of the issuer s classes of common stock, as of July 28, 2017.

Class	Number of Shares
Common Stock, par value $.01 per share	**37,356,123**

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REPLIGEN CORPORATION

CONDENSED CONSOLIDATED BALANCE SHEETS

(Unaudited)

(in thousands, except share data)	June 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 142,207	$ 122,233
Marketable securities	2,744	19,547
Accounts receivable, less reserve for doubtful accounts of $32 at June 30, 2017 and $23 at December 31, 2016	22,115	15,194
Other receivables	534	839
Inventories	26,085	24,696
Prepaid expenses and other current assets	2,260	1,644
Total current assets	195,945	184,153
Property, plant and equipment, net	15,996	14,956
Intangible assets, net	29,013	29,806
Goodwill	60,979	59,548
Restricted cash	450	450
Other assets	6,380	
Total assets	$ 308,763	$ 288,913
Liabilities and stockholders equity		
Current liabilities:		
Accounts payable	$ 6,951	$ 5,061
Accrued liabilities	9,568	16,014
Total current liabilities	16,519	21,075
Convertible senior notes	97,228	95,272
Deferred tax liabilities	2,457	2,103
Other long-term liabilities	1,616	1,699
Commitments and contingencies (Note 15)		
Stockholders equity:		
Preferred stock, $.01 par value, 5,000,000 shares authorized, no shares issued or outstanding		
Common stock, $.01 par value, 80,000,000 shares authorized, 34,118,994 shares at June 30, 2017 and 33,844,074 shares at December 31, 2016 issued and outstanding	341	338

Additional paid-in capital	247,628	242,036
Accumulated other comprehensive loss	(8,671)	(13,749)
Accumulated deficit	(48,355)	(59,861)
Total stockholders equity	190,943	168,764
Total liabilities and stockholders equity	$ 308,763	$ 288,913

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

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REPLIGEN CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Unaudited)

(in thousands, except share and per share data)	Three months ended June 30, 2017	2016	Six months ended June 30, 2017	2016
Revenue:				
Product revenue	$ 32,434	$ 29,170	$ 63,003	$ 54,265
Royalty and other revenue	21		42	
Total revenue	32,455	29,170	63,045	54,265
Operating expenses:				
Cost of product revenue	13,937	12,644	27,926	23,713
Research and development	1,860	1,890	3,602	3,430
Selling, general and administrative	11,185	8,140	20,367	15,159
Contingent consideration fair value adjustments		637		2,642
Total operating expenses	26,982	23,311	51,895	44,944
Income from operations	5,473	5,859	11,150	9,321
Investment income	110	76	206	137
Interest expense	(1,601)	(638)	(3,187)	(643)
Other income (expense)	(328)	75	(448)	(904)
Income before income taxes	3,654	5,372	7,721	7,911
Income tax (benefit) provision	(4,784)	1,500	(3,785)	2,415
Net income	$ 8,438	$ 3,872	$ 11,506	$ 5,496
Earnings per share:				
Basic	$ 0.25	$ 0.12	$ 0.34	$ 0.16
Diluted	$ 0.24	$ 0.11	$ 0.33	$ 0.16
Weighted average shares outstanding:				
Basic	34,097,805	33,649,296	33,995,323	33,336,989
Diluted	35,094,814	34,175,127	34,715,797	33,862,311
Other comprehensive income:				
Unrealized gain (loss) on investments			5	15

Foreign currency translation gain (loss)	4,046	(2,514)	5,073	(633)
Comprehensive income	$ 12,484	$ 1,358	$ 16,584	$ 4,878

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

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REPLIGEN CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(Unaudited)

(In thousands)	**Six months ended June 30,**	
	2017	**2016**
Cash flows from operating activities:		
Net income	$ 11,506	$ 5,496
Adjustments to reconcile net income to net cash used in operating activities:		
Depreciation and amortization	3,278	2,465
Non-cash interest expense	1,956	382
Stock-based compensation expense	3,027	2,059
Deferred tax expense	(5,384)	218
Loss on revaluation of contingent consideration		2,642
Gain on sale of fixed assets		(15)
Loss on disposal of assets	64	26
Changes in assets and liabilities:		
Accounts receivable	(6,347)	892
Other receivables	226	(318)
Inventories	(813)	(5,093)
Prepaid expenses and other current assets	(236)	793
Other assets	(754)	
Accounts payable	1,740	511
Accrued liabilities	(4,216)	(3,239)
Long-term liabilities	(86)	(66)
Net cash provided by operating activities	3,961	6,753
Cash flows from investing activities:		
Acquisition of Atoll GmbH, net of cash received		(8,767)
Purchases of marketable securities	(42)	(3,952)
Redemptions of marketable securities	16,850	14,100
Proceeds from sale of fixed assets		45
Purchases of property, plant and equipment	(2,676)	(1,406)
Net cash provided by investing activities	14,132	20
Cash flows from financing activities:		
Proceeds from issuance of convertible senior notes, net of costs		111,323
Exercise of stock options	1,505	958
Payment of contingent considerations	(1,677)	(498)
Net cash (used in) provided by financing activities	(172)	111,783

Effect of exchange rate changes on cash and cash equivalents	2,053	(26)
Net increase in cash and cash equivalents	19,974	118,530
Cash and cash equivalents, beginning of period	122,233	54,092
Cash and cash equivalents, end of period	$ 142,207	$ 172,622
Supplemental disclosure of non-cash activities:		
Income taxes paid	$ 2,150	$ 1,981
Payment of contingent consideration in common stock	$ 1,062	$ 875
Stock tendered for acquisition of Atoll GmbH	$	$ 14,135

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

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REPLIGEN CORPORATION

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(Unaudited)

1. Basis of Presentation

The condensed consolidated financial statements included herein have been prepared by Repligen Corporation (the Company, Repligen or we) in accordance with generally accepted accounting principles in the United States (U.S. GAAP) and pursuant to the rules and regulations of the Securities and Exchange Commission (SEC), for Quarterly Reports on Form 10-Q and Article 10 of Regulation S-X and do not include all of the information and footnote disclosures required by U.S. GAAP. These condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and accompanying notes thereto included in the Company s Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

The condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, Repligen Sweden AB (Repligen Sweden), Repligen GmbH (acquired as Atoll GmbH as of April 1, 2016 and renamed on September 20, 2016), Repligen Singapore Pte. Ltd. and our former subsidiary, TangenX Technology Corporation (acquired as of December 14, 2016 and merged into the Company as of June 30, 2017). All significant intercompany accounts and transactions have been eliminated in consolidation.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements include all adjustments, consisting of only normal, recurring adjustments necessary for a fair presentation of the financial position, results of operations and cash flows. The results of operations for the interim periods presented are not necessarily indicative of results to be expected for the entire year.

Recently Issued Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), which supersedes the revenue recognition requirements in Accounting Standards Codification Topic 605, *Revenue Recognition*, and creates a new Topic 606, *Revenue from Contracts with Customers*. Two adoption methods are permitted: retrospectively to all prior reporting periods presented, with certain practical expedients permitted; or retrospectively with the cumulative effect of initially adopting the ASU recognized at the date of initial application. The adoption of this ASU will include updates as provided under ASU 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date ; ASU 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net) ; ASU 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing ; and ASU 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients. The Company intends to adopt the provisions of Topic 606 using the modified retrospective method effective January 1, 2018. The Company has made substantial progress with its assessment of the impact of the new revenue standard on its current contracts and principal revenue streams. Following the closing of the acquisition of Spectrum, Inc.

(Spectrum), the Company will also need to assess the potential impact on the Spectrum revenue arrangements. Additionally, the Company will begin to update its revenue recognition policies and procedures and develop a framework for the newly required financial statement disclosures during the third quarter of 2017 to prepare for the adoption of this standard. The Company has not made a determination on the impact to its consolidated financial statements.

In July 2015, the FASB issued ASU No. 2015-11, Inventory (Topic 330): Simplifying the Measurement of Inventory (ASU 2015-11). ASU 2015-11 requires inventory be measured at the lower of cost and net realizable value, and options that currently exist for market value be eliminated. ASU 2015-11 defines net realizable value as estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The guidance is effective prospectively for reporting periods beginning after December 15, 2016 and interim periods within those fiscal years with early adoption permitted. The Company adopted the provisions of ASU 2015-11 as of January 1, 2017, and this standard did not have a material impact on its consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842) (ASU 2016-02). ASU 2016-02 requires lessees to recognize a right-of-use asset and a lease liability for most leases. Extensive quantitative and qualitative disclosures, including significant judgments made by management, will be required to provide greater insight into the extent of revenue and expense recognized and expected to be recognized from existing contracts. The accounting applied by a lessor is largely unchanged from that applied under the current standard. The standard must be adopted using a modified retrospective transition approach and provides for certain practical expedients. This ASU is effective for public entities for fiscal years beginning after December 15, 2018, with early adoption permitted. The Company has not yet completed its assessment of the impact of the new standard on its consolidated financial statements.

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In March 2016, the FASB issued ASU No. 2016-09, Compensation Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting , which aims to simplify several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, classification of certain items on the statement of cash flows and accounting for forfeitures. This ASU is effective for public entities for fiscal years beginning after December 15, 2016, with early adoption permitted. The Company adopted the provisions of this ASU as of January 1, 2017. As a result of this standard, the Company increased its U.S. federal and state net operating loss carryovers by approximately $5.3 million for previously unrecognized excess tax benefits outstanding as of January 1, 2017. Since the Company maintained a full valuation allowance on its net U.S. deferred tax assets as of the adoption date, the Company recorded a corresponding increase to the valuation allowance and the impact of adopting ASU 2016-09 on retained earnings is zero.

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 203): Classification of Certain Cash Receipts and Cash Payments . ASU No. 2016-15 addresses eight specific cash flow issues and clarifies their presentation and classification in the Statement of Cash Flows. This ASU is effective for fiscal years beginning after December 15, 2017 and is to be applied retrospectively with early adoption permitted. The Company currently classifies payments up to the amount of its contingent consideration liability recognized at the date of its acquisition as financing activities, with additional payments classified as operating activities. As a result, the Company does not expect the adoption of ASU 2016-15 to have a material impact on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-01, Business Combinations (Topic 805): Clarifying the Definition of a Business , which clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. This ASU is effective for public entities for fiscal years beginning after December 15, 2017, with early adoption permitted.

In January 2017, the FASB issued ASU No. 2017-04, Intangibles Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment, eliminating the requirement to calculate the implied fair value, essentially eliminating step two from the goodwill impairment test. The new standard requires goodwill impairment to be based upon the results of step one of the impairment test, which is defined as the excess of the carrying value of a reporting unit over its fair value. The impairment charge will be limited to the amount of goodwill allocated to that reporting unit. The standard is effective for the Company on a prospective basis beginning on January 1, 2020, with early adoption permitted. This new guidance is not expected to have a material impact on the Company s consolidated financial statements.

2. Acquisitions

Atoll GmbH

On April 1, 2016, the Company s subsidiary, Repligen Sweden, acquired Atoll GmbH (Atoll) from UV-Cap GmbH & Co. KG (UV Cap) pursuant to a Share Purchase Agreement (the Atoll Share Purchase Agreement), dated as of March 31, 2016 (such acquisition, the Atoll Acquisition), by and among Repligen Sweden, UV Cap, and the Company, in its capacity as guarantor of the obligations of Repligen Sweden under the Atoll Share Purchase Agreement. The Atoll Acquisition was subject to certain closing conditions that did not occur until April 1, 2016. Payment for the Atoll Acquisition was denominated in Euros but is reflected here in U.S. dollars for presentation purposes.

In connection with the Atoll Acquisition, the Company issued and contributed 538,700 shares of the Company s common stock, par value of $0.01 per share valued at $14.1 million (the Atoll Stock Consideration) to Repligen

Sweden through a transfer by the Company on behalf of Repligen Sweden to fulfill Repligen Sweden s obligation to deliver the Atoll Stock Consideration under the Atoll Share Purchase Agreement. The issuance of the Atoll Stock Consideration was not registered under the Securities Act of 1933, as amended (the Securities Act), in reliance upon the exemption from registration provided by Section 4(2) of the Securities Act. The Atoll Stock Consideration was based on the fair value of the Company s common stock on April 1, 2016.

This acquisition strengthened Repligen s bioprocessing business by adding a complementary extension to an existing product line while expanding its direct sales presence worldwide. On September 20, 2016, Atoll changed its name to Repligen GmbH.

The Atoll Acquisition was accounted for as a purchase of a business under ASC 805, Business Combinations. The total purchase price of the Atoll Acquisition was $25.3 million, consisting of an upfront cash payment of $10.2 million, less $74,000 as a result of the final determination of working capital, issuance of the Atoll Stock Consideration, and a future potential milestone payment of $1.1 million if specific revenue growth targets are met for 2016. The $1.1 million potential contingent consideration had an initial probability weighted fair value at the time of the closing of the Atoll Acquisition of approximately $952,000.

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Consideration Transferred

The Company accounted for the Atoll Acquisition as the purchase of a business under U.S. GAAP. Under the acquisition method of accounting, the assets of Atoll were recorded as of the acquisition date, at their respective fair values, and consolidated with those of Repligen. The fair value of the net assets acquired was approximately $25.3 million.

The preparation of the valuation required the use of significant assumptions and estimates. Critical estimates included, but were not limited to, future expected cash flows, including projected revenues and expenses, and the applicable discount rates. These estimates were based on assumptions that the Company believes to be reasonable. However, actual results may differ from these estimates.

The total consideration transferred follows (in thousands):

Cash consideration, less $74 of working capital adjustments	$ 10,176
Value of common stock issued	14,138
Estimated fair value of contingent consideration	952
Total consideration transferred	$ 25,266

The fair value of contingent consideration was determined based upon a probability weighted analysis of expected future milestone and settlement payments to be made to UV Cap. Pursuant to the terms of the Atoll Share Purchase Agreement, the Company would make a contingent consideration payment of $1.1 million if specific revenue growth targets were met for 2016. Because the specified revenue growth targets were met for 2016, the Company made the contingent consideration payment in March 2017. No further measurement of this liability is required as of June 30, 2017.

Acquisition related costs are not included as a component of consideration transferred, but are expensed in the periods in which the costs are incurred. The Company incurred $1,307,000 in transaction costs in 2016 related to the Atoll Acquisition. The transaction costs are included in selling, general and administrative expenses in the consolidated statements of operations.

Fair Value of Net Assets Acquired

The allocation of purchase price was based on the fair value of assets acquired and liabilities assumed as of April 1, 2016. The components and allocation of the purchase price consists of the following amounts (in thousands):

Cash and cash equivalents	$ 1,409
Accounts receivable	697
Inventory	155
Other current assets	169
Fixed assets, net	114
Customer relationships	5,318
Developed technology	2,175

Non-competition agreements	57
Trademark and trade name	11
Deferred tax assets	885
Accounts payable and other liabilities assumed	(599)
Deferred tax liabilities	(2,202)
Goodwill	17,077
Net assets acquired	$ 25,266

Of the consideration paid, $5.3 million represents the fair value of customer relationships that will be amortized over the determined useful life of 13 years and $2.2 million represents the fair value of developed technology that will be amortized over a determined useful life of 14 years. $57,000 represents the fair value of non-competition agreements and $11,000 represents the fair value of trademarks and trade names that will be amortized over a determined useful life of 2 years. The aforementioned intangible assets will be amortized on a straight-line basis.

The goodwill of $17.1 million represents future economic benefits expected to arise from synergies from combining operations, utilizing the Company s existing sales infrastructure to increase market presence and the extension of existing customer relationships.

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TangenX Technology Corporation

On December 14, 2016, the Company acquired TangenX Technology Corporation (TangenX), pursuant to the terms of the Share Purchase Agreement, dated as of December 14, 2016 (the TangenX Share Purchase Agreement), by and among the Company, John Connors and Novasep Process SAS (such acquisition, the TangenX Acquisition). Through the TangenX Acquisition, the Company acquired all outstanding shares and the business of TangenX, including TangenX s innovative single-use Sius line of tangential flow filtration (TFF) cassettes and hardware used in downstream biopharmaceutical manufacturing processes.

TangenX TFF products are used in the filtration of biological drugs, thereby expanding Repligen s filtration portfolio and complementing the OPUS® pre-packed column product line in downstream purification. Effective June 30, 2017, the operations of TangenX were merged with and into the Company.

The TangenX Acquisition was accounted for as a purchase of a business under ASC 805, Business Combinations. The total purchase price of the TangenX Acquisition was $37.1 million in cash.

Consideration Transferred

The Company accounted for the TangenX Acquisition as a purchase of a business under U.S. GAAP. Under the acquisition method of accounting, the assets of TangenX were recorded as of the acquisition date, at their respective fair values, and consolidated with those of Repligen. The fair value of the net assets acquired was approximately $37.1 million.

The preparation of the valuation required the use of significant assumptions and estimates. Critical estimates included, but were not limited to, future expected cash flows, including projected revenues and expenses, and the applicable discount rates. These estimates were based on assumptions that the Company believes to be reasonable. However, actual results may differ from these estimates.

The total consideration transferred follows (in thousands):

Cash consideration	$ 37,532
Less: working capital adjustment	(382)
Net assets acquired	$ 37,150

Acquisition related costs are not included as a component of consideration transferred, but are expensed in the periods in which the costs are incurred. The Company incurred $376,000 in transaction costs for the six-month period ended June 30, 2017 and $935,000 in transaction costs for the year ended December 31, 2016 related to the TangenX Acquisition. The transaction costs are included in selling, general and administrative expenses in the consolidated statements of operations.

Fair Value of Net Assets Acquired

The allocation of purchase price was based on the fair value of assets acquired and liabilities assumed as of December 14, 2016. The components and allocation of the purchase price consists of the following amounts (in thousands):

Cash and cash equivalents	$ 1,218
Accounts receivable	459
Other receivables	111
Inventory	936
Other current assets	50
Fixed assets, net	215
Customer relationships	6,192
Developed technology	6,044
Non-competition agreements	21
Trademark and trade name	11
Accounts payable and other liabilities assumed	(3,083)
Deferred tax liabilities	(4,525)
Goodwill	29,501
Net assets acquired	$ 37,150

Of the consideration paid, $6.2 million represents the fair value of customer relationships that will be amortized over the determined useful life of 13 years and $6.0 million represents the fair value of developed technology that will be amortized over a determined useful life of 20 years. $21,000 represents the fair value of non-competition agreements that will be amortized over a determined life of 5 years. $11,000 represents the fair value of trademarks and trade names that will be amortized over a determined useful life of 2 years. The aforementioned intangible assets will be amortized on a straight-line basis.

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The goodwill of $29.5 million represents future economic benefits expected to arise from synergies from combining operations and the extension of existing customer relationships.

Revenue, Net Income and Pro Forma Presentation

The Company recorded revenue from TangenX of $119,000 from December 15, 2016 through December 31, 2016 and revenue of $1,865,000 and $3,838,000 for the three- and six-month periods ended June 30, 2017. The Company has included the operating results of TangenX in its consolidated statements of operations since the December 15, 2016 acquisition date. The following table presents unaudited supplemental pro forma information as if the TangenX Acquisition had occurred as of January 1, 2016 (in thousands, except per share data):

	Three months ended June 30, 2016	Six months ended June 30, 2016
Total revenue	$ 30,676	$ 57,628
Net income	$ 4,191	$ 9,309
Earnings per share:		
Basic	$ 0.12	$ 0.28
Diluted	$ 0.12	$ 0.27

The unaudited pro forma information for the three- and six-month periods ended June 30, 2016 was calculated after applying the Company s accounting policies and the impact of acquisition date fair value adjustments. The unaudited pro forma net income for the three- and six-month periods ended June 30, 2016 was adjusted to include acquisition-related transaction costs, inventory step-up charges, amortization of intangible assets and income tax benefits resulting from the acquisition.

These pro forma condensed consolidated financial results have been prepared for comparative purposes only and include certain adjustments to reflect the pro forma results of operations as if the acquisition had occurred as of the beginning of the periods presented, such as fair value adjustments to inventory and increased amortization for the fair value of acquired intangible assets. The pro forma information does not reflect the effect of costs or synergies that would have been expected to result from the integration of the acquisition. The pro forma information does not purport to be indicative of the results of operations that actually would have resulted had the combination occurred at the beginning of each period presented, or of future results of the consolidated entities.

Spectrum, Inc.

On August 1, 2017, the Company completed the acquisition of Spectrum, pursuant to the terms of the Agreement and Plan of Merger and Reorganization, dated June 22, 2017 (the Spectrum Agreement). See Note 17 for further information.

3. Revenue Recognition

Product Sales

The Company s revenue recognition policy is to recognize revenues from product sales and services in accordance with ASC 605, *Revenue Recognition*. These standards require that revenues are recognized when persuasive evidence of an arrangement exists, product delivery, including customer acceptance when required, has occurred or services have been rendered, the price is fixed or determinable and collectability is reasonably assured. Determination of whether these criteria have been met are based on management s judgments primarily regarding the fixed nature of the fee charged for the product delivered and the collectability of those fees. The Company has a few longstanding customers who comprise the majority of revenue and have excellent payment histories and therefore the Company does not require collateral. The Company has had no significant write-offs of uncollectible invoices in the periods presented. When more than one element such as equipment, consumables, and services are contained in a single arrangement, the Company allocates revenue between the elements based on each element s relative selling price, provided that each element meets the criteria for treatment as a separate unit of accounting. An item is considered a separate unit of accounting if it has value to the customer on a stand-alone basis. The selling price of the undelivered elements is determined by the price charged when the element is sold separately, or in cases when the item is not sold separately, by third-party evidence of selling price or management s best estimate of selling price.

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The Company s product revenues are from the sale of bioprocessing products, equipment devices, and related consumables used with these equipment devices to customers in the life science and biopharmaceutical industries. On product sales to end customers, revenue is recognized, net of discounts, when both the title and risk of loss have transferred to the customer, as determined by the shipping terms provided there are no uncertainties regarding acceptance, and all obligations have been completed. Generally, our product arrangements for equipment sales are multiple element arrangements, and may include services, such as installation and training, and multiple products, such as consumables and spare parts. In accordance with ASC 605-25, based on terms and conditions of the product arrangements, the Company believes that these services and undelivered products can be accounted for separately from the delivered product element, as the delivered products have value to our customers on a standalone basis. Accordingly, revenue for services not yet performed at the time of product shipment are deferred and recognized as such services are performed. The relative selling price of any undelivered products is also deferred at the time of shipment and recognized as revenue when these products are delivered. For product sales to distributors, the Company recognizes revenue for both equipment and consumables upon delivery to the distributor unless direct shipment to the end user is requested. In this case, revenue is recognized upon delivery to the end user s location. In general, distributors are responsible for shipment to the end customer along with installation, training and acceptance of the equipment by the end customer. Sales to distributors are not contingent upon resale of the product.

At the time of sale, the Company also evaluates the need to accrue for warranty and sales returns. The supply agreements the Company has with its customers and the related purchase orders identify the terms and conditions of each sale and the price of the goods ordered. Due to the nature of the sales arrangements, inventory produced for sale is tested for quality specifications prior to shipment. Since the product is manufactured to order and in compliance with required specifications prior to shipment, the likelihood of sales return, warranty or other issues is largely diminished. Furthermore, there is no customer right of return in our sales agreements. Sales returns and warranty issues are infrequent and have not had a material impact on the Company s financial statements historically.

Shipping and handling fees are recorded as a component of product revenue, with the associated costs recorded as a component of cost of product revenue.

Therapeutics Licensing Agreements

Activities under licensing agreements are evaluated in accordance with ASC 605-25 to determine if they represent a multiple element revenue arrangement. The Company identifies the deliverables included within the agreement and evaluates which deliverables represent separate units of accounting. The Company accounts for those components as separate units of accounting if the following two criteria are met:

The delivered item or items have value to the customer on a stand-alone basis; and

If there is a general right of return relative to the delivered items, delivery or performance of the undelivered items is considered probable and within the Company s control.

Factors considered in this determination include, among other things, whether any other vendors sell the items separately and if the licensee could use the delivered item for its intended purpose without the receipt of the remaining deliverables. If multiple deliverables included in an arrangement are separable into different units of accounting, the Company allocates the arrangement consideration to those units of accounting. The amount of allocable arrangement consideration is limited to amounts that are fixed or determinable. Arrangement consideration is allocated at the inception of the arrangement to the identified units of accounting based on their relative selling price. Revenue is

recognized for each unit of accounting when the appropriate revenue recognition criteria are met.

Future milestone payments, if any, under a license agreement will be recognized under the provisions of ASC 605-28, which the Company adopted on January 1, 2011. The Company has elected to recognize a payment that is contingent upon the achievement of a substantive milestone in its entirety in the period in which the milestone is achieved. A milestone is substantive if:

- It can only be achieved based in whole or in part on either the Company s performance or the occurrence of a specific outcome resulting from the Company s performance;
- There is substantive uncertainty at the date an arrangement is entered into that the event will be achieved; and
- It would result in additional payments being due to the entity.

The commercial milestone payments and royalty payments received under license agreements, if any, will be recognized as revenue when they are earned.

Sale of Intellectual Property to BioMarin

In January 2014, the Company entered into an asset purchase agreement (the BioMarin Asset Purchase Agreement) with BioMarin Pharmaceutical Inc. (BioMarin) to sell Repligen s histone deacetylase inhibitor (HDACi) portfolio. Pursuant to the terms of the

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BioMarin Asset Purchase Agreement, the Company is entitled to receive up to $160 million in potential future milestone payments, comprised of:

- Up to $60 million related to the achievement of specified clinical and regulatory milestone events; and
- Up to $100 million related to the achievement of specified commercial sales events, specifically the first commercial sale in specific territories.

In addition, Repligen is eligible to receive royalties on sales of therapeutic products originating from the HDACi portfolio. The royalty rates are tiered and begin in the mid-single-digits for the first HDACi portfolio product and for the first non-HDACi portfolio product with lesser amounts for any backup products developed under the BioMarin Asset Purchase Agreement. The Company s receipt of these royalties is subject to customary offsets and deductions. There are no refund provisions in this agreement. Any milestones earned upon specified clinical development or commercial sales events or future royalty payments, under the BioMarin Asset Purchase Agreement will be recognized as revenue when they are earned.

Activities under this agreement were evaluated in accordance with ASC 605-25 to determine if they represented a multiple element revenue arrangement. The Company identified the following deliverables in the BioMarin Asset Purchase Agreement:

- The assignment by the Company to BioMarin of its intellectual property rights in the HDACi portfolio and the Scripps Agreement (the Transferred Assets); and
- The transfer of certain notebooks, data, documents, biological materials (if any) and other such documents in our possession that might be useful to further development of the program (the Technology Transfer).

Two criteria must be met in order for a deliverable to be considered a separate unit of accounting. The first criterion requires that the delivered item or items have value to the customer on a stand-alone basis. The second criterion, which relates to evaluating a general right of return, is not applicable because such a provision does not exist in the BioMarin Asset Purchase Agreement. The deliverables outlined above were deemed to have stand-alone value and to meet the criteria to be accounted for as separate units of accounting. Factors considered in this determination included, among other things, BioMarin s right under the agreement to assign the Transferred Assets, whether any other vendors sell the items separately and if BioMarin could use the delivered item for its intended purpose without the receipt of the remaining deliverables. If multiple deliverables included in an arrangement are separable into different units of accounting, the multiple-element arrangements guidance addresses how to allocate the arrangement consideration to those units of accounting. The amount of allocable arrangement consideration is limited to amounts that are fixed or determinable. Arrangement consideration is allocated at the inception of the arrangement to the identified units of accounting based on their relative selling price.

The Company evaluated the potential milestones in accordance with ASC 605-28, which allows an entity to make an accounting policy election to recognize a payment that is contingent upon the achievement of a substantive milestone in its entirety in the period in which the milestone is achieved. This evaluation included an assessment of the risks that must be overcome to achieve the respective milestone as well as whether the achievement of the milestone was due in part to our initial clinical work, the level of effort and investment required to achieve the respective milestone and

whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement. There is considerable judgment involved in determining whether a milestone satisfies all of the criteria required to conclude that a milestone is substantive. Milestones that are not considered substantive are recognized as earned if there are no remaining performance obligations or over the remaining period of performance, assuming all other revenue recognition criteria are met.

The Company believes that the $60 million of specified clinical and regulatory milestone payments are substantive. Therefore, any such milestones achieved will be recognized as revenue when earned.

Any milestones achieved upon specified commercial sales events or future royalty payments are considered contingent revenue under the BioMarin Asset Purchase Agreement, and will be recognized as revenue when they are earned as there are no undelivered elements remaining and no continuing performance obligations under the arrangement.

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4. Accumulated Other Comprehensive Income

The following table summarizes the changes in accumulated other comprehensive income by component (in thousands):

(In thousands)	Unrealized gain (loss) on investments	Foreign currency translation gain (loss)	Total
Balance at December 31, 2016	$ (5)	$ (13,744)	$ (13,749)
Other comprehensive income	5	5,073	5,078
Balance at June 30, 2017	$	$ (8,671)	$ (8,671)

5. Earnings Per Share

The Company reports earnings per share in accordance with ASC Topic 260, Earnings Per Share, which establishes standards for computing and presenting earnings per share. Basic earnings per share is computed by dividing net income available to common shareholders by the weighted-average number of common shares outstanding during the period. Diluted earnings per share is computed by dividing net income available to common shareholders by the weighted-average number of common shares and dilutive common share equivalents then outstanding. Potential common share equivalents consist of restricted stock awards and the incremental common shares issuable upon the exercise of stock options. Under the treasury stock method, unexercised in-the-money stock options and warrants are assumed to be exercised at the beginning of the period or at issuance, if later. The assumed proceeds are then used to purchase common shares at the average market price during the period. Share-based payment awards that entitle their holders to receive non-forfeitable dividends before vesting are considered participating securities and are considered in the calculation of basic and diluted earnings per share. There were no such participating securities outstanding during the three- and six-month periods ended June 30, 2017 and 2016.

Basic and diluted weighted average shares outstanding were as follows:

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Weighted average common shares	34,097,805	33,649,296	33,995,323	33,336,989
Dilutive common stock options and restricted stock units	437,427	525,831	433,483	525,322
Dilutive effect of senior convertible notes	559,582		286,991	
Weighted average common shares, assuming dilution	35,094,814	34,175,127	34,715,797	33,862,311

At June 30, 2017, there were outstanding options to purchase 803,532 shares of the Company s common stock at a weighted average exercise price of $20.16 per share and 393,338 restricted stock units. For the three- and six-month periods ended June 30, 2017, 187,072 and 222,001 options to purchase shares of the Company s common stock,

respectively, were excluded from the calculation of diluted earnings per share because the exercise prices of the stock options were greater than or equal to the average price of the common shares, and were therefore anti-dilutive. As provided by the terms of the indenture underlying the senior convertible notes, the Company has a choice to settle the conversion obligation for its senior convertible notes in cash, shares or any combination of the two. The Company currently intends to settle the par value of its senior convertible notes in cash and any excess conversion premium in shares. The Company applies the provisions of ASC 260, *Earnings Per Share,* Subsection 10-45-44, to determine the diluted weighted average shares outstanding as it relates to the conversion spread on its convertible notes. Accordingly, the par value of the senior convertible notes is not included in the calculation of diluted income per share, but the dilutive effect of the conversion premium is considered in the calculation of diluted net income per share using the treasury stock method. The share figures in the table above represent the estimated incremental shares that would be issued related to the conversion premium, assuming conversion of all the outstanding senior convertible notes as of June 30, 2017.

At June 30, 2016, there were outstanding options to purchase 1,315,739 shares of the Company s common stock at a weighted average exercise price of $11.70 per share. For the three- and six-month periods ended June 30, 2016, 359,828 and 417,279 options to purchase shares of the Company s common stock, respectively, were excluded from the calculation of diluted earnings per share because the exercise prices of the stock options were greater than or equal to the average price of the common shares, and were therefore anti-dilutive. The Company intends to settle the par value of its senior convertible notes in cash and any excess conversion premium in shares. Accordingly, the par value of the senior convertible notes is not included in the calculation of diluted income per share. As of June 30, 2016, there is no dilution related to the conversion premium on these notes.

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As detailed in Note 17, in July 2017, the Company completed a public offering in which a total of 3,228,069 shares of its common stock were sold to the public at a price of $42.75 per share.

6. Cash, Cash Equivalents and Marketable Securities

At June 30, 2017 and December 31, 2016, the Company s investments included money market funds and short-term marketable securities. These marketable securities are classified as available-for-sale. Marketable securities are investments with original maturities of greater than 90 days. Long-term marketable securities are securities with maturities of greater than one year. The average remaining contractual maturity of marketable securities at June 30, 2017 was approximately 2.0 months.

Management reviewed the Company s investments as of June 30, 2017 and December 31, 2016 and concluded that there are no securities with other than temporary impairments in the investment portfolio. The Company does not intend to sell any investments in an unrealized loss position, and it is not more likely than not that the Company will be required to sell the investments before recovery of their amortized cost bases.

Investments in marketable securities consisted of the following at June 30, 2017 (in thousands):

	June 30, 2017			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
Marketable securities:				
Corporate and other debt securities	$ 2,744	$	$	$ 2,744
Total	$ 2,744	$	$	$ 2,744

There were no long-term marketable securities as of June 30, 2017.

At June 30, 2017, the Company s investments included two securities in unrealized loss positions with a total unrealized loss of less than $1,000 and a total fair market value of approximately $1,498,000. All investments with gross unrealized losses have been in unrealized loss positions for less than 12 months. The unrealized losses were caused primarily by current economic and market conditions. There was no change in the credit risk of the securities. There were no realized gains or losses on the investments for the three- and six-month periods ended June 30, 2017 and 2016.

Investments in marketable securities consisted of the following at December 31, 2016 (in thousands):

	December 31, 2016			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
Marketable securities:				

U.S. Government and agency securities	$ 807	$	$	$ 807
Corporate and other debt securities	18,745	2	(7)	18,740
Total	$ 19,552	$ 2	$ (7)	$ 19,547

There were no long-term marketable securities as of December 31, 2016.

The contractual maturities of all money market funds and marketable securities are less than one year as of June 30, 2017.

7. Inventories

Inventories relate to the Company s bioprocessing business. The Company values inventory at cost or, if lower, market value, using the first-in, first-out method. The Company reviews its inventories at least quarterly and records a provision for excess and obsolete inventory based on its estimates of expected sales volume, production capacity and expiration dates of raw materials, work-in-process and finished products. Expected sales volumes are determined based on supply forecasts provided by key customers for the next 3 to 12 months. The Company writes down inventory that has become obsolete, inventory that has a cost basis in excess of its expected net

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realizable value, and inventory in excess of expected requirements to cost of product revenue. Manufacturing of bioprocessing finished goods is done to order and tested for quality specifications prior to shipment. Reserves for excess and obsolete inventory were approximately $406,000 at June 30, 2017 and $435,000 at December 31, 2016.

A change in the estimated timing or amount of demand for the Company s products could result in additional provisions for excess inventory quantities on hand. Any significant unanticipated changes in demand or unexpected quality failures could have a significant impact on the value of inventory and reported operating results. During all periods presented in the accompanying financial statements, there have been no material adjustments related to a revised estimate of inventory valuations.

Work-in-process and finished products inventories consist of material, labor, outside processing costs and manufacturing overhead. Inventories consist of the following (in thousands):

	June 30, 2017	December 31, 2016
Raw Materials	$ 16,538	$ 14,954
Work-in-process	2,461	2,789
Finished products	7,086	6,953
Total	$ 26,085	$ 24,696

8. Property, Plant and Equipment

Property, plant and equipment consist of the following (in thousands):

	June 30, 2017	December 31, 2016
Leasehold improvements	$ 15,272	$ 14,592
Equipment	16,471	15,214
Furniture and fixtures	3,732	3,218
Construction in progress	1,604	1,264
Total property, plant and equipment	37,079	34,288
Less: accumulated depreciation	(21,083)	(19,332)
Property, plant and equipment, net	$ 15,996	$ 14,956

Depreciation expense totaled approximately $1,858,000 and $1,535,000 for the six-month periods ended June 30, 2017 and 2016, respectively.

9. Intangible Assets

Intangible assets are amortized over their useful lives using the straight-line method, as applicable, and the amortization expense is recorded within selling, general and administrative expense in the Company s statements of comprehensive income.

The Company reviews its indefinite-lived intangible assets not subject to amortization to determine if adverse conditions exist or a change in circumstances exists that would indicate an impairment. Intangible assets and their related useful lives are reviewed at least annually to determine if any adverse conditions exist that would indicate the carrying value of these assets may not be recoverable. More frequent impairment assessments are conducted if certain conditions exist, including a change in the competitive landscape, any internal decisions to pursue new or different technology strategies, a loss of a significant customer, or a significant change in the marketplace, including changes in the prices paid for our products or changes in the size of the market for our products. An impairment results if the carrying value of the asset exceeds the estimated fair value of the asset. If the estimate of an intangible asset s remaining useful life is changed, the remaining carrying amount of the intangible asset is amortized prospectively over the revised remaining useful life. The Company continues to believe that its intangible assets are recoverable at June 30, 2017.

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Intangible assets consisted of the following at June 30, 2017 (in thousands):

	Gross Carrying Amount	Accumulated Amortization	Weighted Average Useful Life (in years)
Technology developed	$ 13,119	$ (1,926)	17
Patents	240	(223)	8
Customer relationships	23,312	(6,260)	11
Trademark	711		
Other intangibles	89	(49)	2
Total intangible assets	$ 37,471	$ (8,458)	13

Intangible assets consisted of the following at December 31, 2016 (in thousands):

	Gross Carrying Amount	Accumulated Amortization	Weighted Average Useful Life (in years)
Technology developed	$ 12,911	$ (1,468)	17
Patents	240	(208)	8
Customer relationships	22,555	(4,995)	11
Trademark/ tradename	711		
Other intangibles	84	(24)	2
Total intangible assets	$ 36,501	$ (6,695)	13

Amortization expense for amortized intangible assets was approximately $1,484,000 and $932,000 for the six-month periods ended June 30, 2017 and 2016, respectively. As of June 30, 2017, the Company expects to record amortization expense as follows (in thousands):

Years Ending	Amortization Expense
December 31, 2017 (six months remaining)	$ 1,708
December 31, 2018	2,904
December 31, 2019	2,870
December 31, 2020	2,388
December 31, 2021	2,227

The amounts reported above do not include amortization expense related to intangible assets acquired as part of the Spectrum Acquisition, as reported in Note 17, below.

10. Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	June 30, 2017	December 31, 2016
Employee compensation	$ 4,602	$ 5,586
Accrued interest payable	204	204
Accrued purchases	659	382
Taxes	539	1,692
Contingent consideration		6,119
Royalties	450	248
Professional fees	1,505	411
Unearned revenue	864	408
Other accrued expenses	745	964
Total	$ 9,568	$ 16,014

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11. Long Term Debt

The carrying value of the Company s convertible senior notes is as follows:

	June 30, 2017	December 31, 2016
2.125% Convertible Senior Notes due 2021:		
Principal amount	$ 115,000	$ 115,000
Unamortized debt discount	(15,114)	(16,777)
Unamortized debt issuance costs	(2,658)	(2,951)
Total convertible senior notes	$ 97,228	$ 95,272

On May 24, 2016, the Company issued $115 million aggregate principal amount of its 2.125% Convertible Senior Notes due 2021 (the Notes). The net proceeds from the sale of the Notes, after deducting the underwriting discounts and commissions and other related offering expenses, were approximately $111.1 million. The Notes bear interest at the rate of 2.125% per annum, payable semiannually in arrears on June 1 and December 1 of each year, beginning on December 1, 2016.

The Notes will mature on June 1, 2021, unless earlier repurchased, redeemed or converted in accordance with their terms. Prior to March 1, 2021, the Notes will be convertible at the option of holders of the Notes only upon satisfaction of certain conditions and during certain periods, and thereafter, the notes will be convertible at any time until the close of business on the second scheduled trading day immediately preceding the maturity date. Upon conversion, holders of the Notes will receive shares of the Company s common stock, cash or a combination thereof, at the Company s election. It is the Company s current intent and policy to settle all conversions through combination settlement, which involves satisfying the principal amount outstanding with cash and any note conversion value over the principal amount in shares of the Company s common stock.

The conversion rate for the Notes will initially be 31.1813 shares of the Company s common stock per $1,000 principal amount of Notes, which is equivalent to an initial conversion price of approximately $32.07 per common share, and is subject to adjustment under the terms of the Notes. Holders of the Notes may require the Company to repurchase their Notes upon the occurrence of a fundamental change prior to maturity for cash at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased plus accrued and unpaid interest, if any, to, but excluding, the repurchase date.

The Company will not have the right to redeem the Notes prior to June 5, 2019, but may redeem the Notes, at its option, in whole or in part, on any business day on or after June 5, 2019 and prior to the maturity date if the last reported sale price of the Company s common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company provides written notice of redemption. The redemption price will be equal to 100% of the principal amount of the principal amount of Notes to be redeemed plus accrued and unpaid interest to, but excluding, the redemption date.

The Notes contain customary terms and events of default. If an event of default (other than certain events of bankruptcy, insolvency or reorganization involving the Company) occurs and is continuing, the holders of at least 25% in aggregate principal amount of the outstanding Notes may declare 100% of the principal of, and any accrued and unpaid interest on, all of the Notes to be due and payable. Upon the occurrence of certain events of bankruptcy, insolvency or reorganization involving the Company, 100% of the principal of and accrued and unpaid interest, if any,

on all of the Notes will become due and payable automatically. Notwithstanding the foregoing, the Notes provide that, to the extent the Company elects and for up to 270 days, the sole remedy for an event of default relating to certain failures by the Company to comply with certain reporting covenants consist exclusively of the right to receive additional interest on the Notes. The Company is not aware of any events of default, current events or market conditions that would allow holders to call or convert the Notes as of June 30, 2017.

The cash conversion feature of the Notes required bifurcation from the Notes and was initially accounted for as an equity instrument classified to stockholders equity, as the conversion feature was determined to be clearly and closely related to the Company s stock. Based on market data available for publicly traded, senior, unsecured corporate bonds issued by companies in the same industry and asset base and with similar maturity, the Company estimated the implied interest rate, assuming no conversion option. Assumptions used in the estimate represent what market participants would use in pricing the liability component, including market interest rates, credit standing, and yield curves, all of which are defined as Level 2 observable inputs. The estimated implied interest rate was applied to the Notes, which resulted in a fair value of the liability component of $96,289,000 upon issuance, calculated as the present value of implied future payments based on the $115 million aggregate principal amount. The equity component of the Notes was recognized as a debt discount, recorded in additional paid-in capital, and represents the difference between the aggregate principal of the Notes and the fair value of the Notes without conversion option on their issuance date. The debt discount is amortized to interest expense using the effective interest method over five years, or the life of the Notes. The Company assesses the equity classification of the cash conversion feature quarterly, and it is not remeasured as long as it continues to meet the conditions for equity classification.

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Interest expense recognized on the Notes during the three-month period ended June 30, 2017 includes $611,000, $839,000 and $147,000 for the contractual coupon interest, the accretion of the debt discount and the amortization of the debt issuance costs, respectively. Interest expense recognized on the Notes during the six-month period ended June 30, 2017 includes $1,222,000, $1,663,000 and $293,000 for the contractual coupon interest, the accretion of the debt discount and the amortization of the debt issuance costs, respectively. The effective interest rate on the Notes is 6.6%, which includes the interest on the Notes, amortization of the debt discount and debt issuance costs. As of June 30, 2017, the carrying value of the Notes was approximately $97.2 million and the fair value of the principal was approximately $165.5 million. The fair value of the Notes was determined based on the most recent trade activity of the Notes as of June 30, 2017.

12. Stock-Based Compensation

For the three-month periods ended June 30, 2017 and 2016, the Company recorded stock-based compensation expense of approximately $1,496,000 and $1,137,000, respectively, for share-based awards granted under the Second Amended and Restated 2001 Repligen Corporation Stock Plan (the 2001 Plan) and the Repligen Corporation Amended and Restated 2012 Stock Option and Incentive Plan (the 2012 Plan, and collectively with the 2001 Plan and the 1992 Repligen Corporation Stock Option Plan, the Plans). The Company recorded stock-based compensation expense of approximately $3,027,000 and $2,059,000 for the six-month periods ended June 30, 2017 and 2016, respectively, for share-based awards granted under the Plans.

The following table presents stock-based compensation expense included in the Company s consolidated statements of comprehensive income (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Cost of product revenue	$ 153	$ 84	$ 294	$ 144
Research and development	79	105	211	185
Selling, general and administrative	1,264	948	2,522	1,730
Total	$ 1,496	$ 1,137	$ 3,027	$ 2,059

The 2012 Plan allows for the granting of incentive and nonqualified options to purchase shares of common stock, restricted stock and other equity awards. Incentive options granted to employees under the Plans generally vest over a three to five-year period, with 20%-33% vesting on the first anniversary of the date of grant and the remainder vesting in equal yearly installments thereafter. Nonqualified options issued to non-employee directors under the Plans generally vest over one year. Options granted under the Plans have a maximum term of ten years from the date of grant and generally, the exercise price of the stock options equals the fair market value of the Company s common stock on the date of grant. At June 30, 2017, options to purchase 803,532 shares and 393,338 restricted stock units were outstanding under the Plans. At June 30, 2017, 1,483,367 shares were available for future grant under the 2012 Plan.

The Company uses the Black-Scholes option pricing model to calculate the fair value of stock option awards on the grant date, and the Company uses the value of the common stock as of the grant date to value restricted stock units. The Company measures stock-based compensation cost at the grant date based on the estimated fair value of the

award, and recognizes awards with service based vesting as expense over the employee s requisite service period on a straight-line basis. The Company has no awards that are performance-based or subject to market conditions. The Company recognizes stock-based compensation expense for options that are ultimately expected to vest, and accordingly, such compensation expense has been adjusted for estimated forfeitures.

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Information regarding option activity for the six-month period ended June 30, 2017 under the Plans is summarized below:

	Options Outstanding	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (in years)	(in thousands) Aggregate Intrinsic Value
Options outstanding at December 31, 2016	882,748	$ 16.88		
Granted	101,844	33.38		
Exercised	(149,903)	10.04		
Forfeited/cancelled	(31,157)	20.27		
Options outstanding at June 30, 2017	803,532	$ 20.16	6.90	$ 17,145
Options exercisable at June 30, 2017	439,980	$ 14.98	5.71	$ 11,695
Vested and expected to vest at June 30, 2017 (1)	790,545	$ 20.04	6.87	$ 16,921

(1) Represents the number of vested options as of June 30, 2017 plus the number of unvested options expected to vest as of June 30, 2017 based on the unvested outstanding options at June 30, 2017 adjusted for estimated forfeiture rates of 8% for awards granted to non-executive level employees and 3% for awards granted to executive level employees.

The aggregate intrinsic value in the table above represents the total pre-tax intrinsic value (the difference between the closing price of the common stock on June 30, 2017 of $41.44 per share and the exercise price of each in-the-money option) that would have been received by the option holders had all option holders exercised their options on June 30, 2017.

The weighted average grant date fair value of options granted during the six-month periods ended June 30, 2017 and 2016 was $16.94 and $13.55, respectively. The total fair value of stock options that vested during the six-month periods ended June 30, 2017 and 2016 was approximately $1,734,000 and $1,195,000, respectively.

Information regarding restricted stock unit activity for the three months ended June 30, 2017 under the Plans is summarized below:

	Options Outstanding	Weighted-Average Exercise Price Per	Weighted-Average Remaining Contractual Term	(in thousands) Aggregate Intrinsic Value

		Share	(in years)		
Restricted stock units outstanding at December 31, 2016	353,838	$			
Granted	146,154				
Exercised	(94,261)				
Forfeited/cancelled	(12,393)				
Restricted stock units outstanding at June 30, 2017	393,338	$	2.93	$	16,300
Vested and expected to vest at June 30, 2017 [1]	362,788	$	2.82	$	15,034

[1] Represents the number of vested restricted stock units as of June 30, 2017 plus the number of unvested restricted stock units expected to vest as of June 30, 2017 based on the unvested outstanding restricted stock units at June 30, 2017 adjusted for estimated forfeiture rates of 8% for awards granted to non-executive level employees and 3% for awards granted to executive level employees.

The aggregate intrinsic value in the table above represents the total pre-tax intrinsic value (equal to the closing price of the common stock on June 30, 2017 of $41.44 per share) that would have been received by the restricted stock unit holders had all holders exercised on June 30, 2017. The aggregate intrinsic value of restricted stock units exercised during the six-month periods ended June 30, 2017 and 2016 was approximately $3,231,000 and $1,392,000, respectively.

The weighted average grant date fair value of restricted stock units granted during the three months ended June 30, 2017 and 2016 was $33.06 and $26.07, respectively. The total grant date fair value of restricted stock units that vested during the six-month periods ended June 30, 2017 and 2016 was approximately $2,373,000 and $1,201,000, respectively.

As of June 30, 2017, there was $14,437,000 of total unrecognized compensation cost related to unvested share-based awards. This cost is expected to be recognized over a weighted average remaining requisite service period of 2.74 years.

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13. Income Taxes

The Company s effective tax rate for the three- and six-month periods ended June 30, 2017 was (130.9%) and (49.0%), respectively, compared to 27.9% and 30.5%, respectively, for the corresponding periods in the prior year. In the second quarter of 2017, the Company completed a sale of intellectual property from the Repligen Corporation to Repligen Sweden AB that allowed for the Company to utilize certain of its U.S. deferred tax assets. Accordingly, the Company reduced its valuation allowance on its U.S. deferred tax assets by approximately $9,200,000 in the second quarter of 2017 and recorded a $5,625,000 tax benefit on the Company s consolidated statement of operations as a result of the sale of the intellectual property. For the three- and six-month periods ended June 30, 2017, the effective tax rate was lower than the U.S. statutory tax rate of 34% primarily due to this sale of intellectual property. Additionally, the effective tax rate is lower than the U.S. statutory tax rate due to lower statutory tax rates on foreign profits. For the three- and six-month periods ended June 30, 2016, the effective tax rate was lower than the U.S. statutory tax rate of 34% primarily due to increased foreign profits at lower tax rates, partially offset by unbenefited domestic losses.

At December 31, 2016, the Company had net operating loss carryforwards of approximately $48,550,000 in the U.S., net operating loss carryforwards of approximately 2,287,000 (approximately $2,407,000) in Germany, federal business tax credit carryforwards of $1,745,000 and state business tax credit carryforwards of approximately $442,000 available to reduce future domestic income taxes, if any. The net operating loss and business tax credits carryforwards will continue to expire at various dates through December 2036. The net operating loss and business tax credit carryforwards are subject to review and possible adjustment by the Internal Revenue Service. While an IRC Section 382 study was completed through June 30, 2017, and no current limitations were identified, use of these net operating loss and business tax credit carryforwards may be limited in the future based on certain changes in the ownership interest of significant stockholders.

As of June 30, 2017, after accounting for the sale of intellectual property to Repligen Sweden AB as detailed above, the Company concluded that realization of the remainder of its deferred tax assets in the United States is not more likely than not, and as such, the Company maintained a valuation allowance against its net U.S. deferred tax assets, after considerations for deferred tax liabilities which will not be utilized as a future source of income.

ASU 2016-09 states that previously unrecognized excess tax benefits related to stock based compensation should be recognized on a modified retrospective basis. As such, the Company increased its U.S. federal and state net operating loss carryovers by approximately $5.3 million as of January 1, 2017 for previously unrecognized stock based compensation excess tax benefits outstanding as of the beginning of the period. Because the Company maintained a full valuation allowance on its U.S. deferred tax assets at that date, the Company recorded a corresponding increase to the valuation allowance as of January 1, 2017, and the impact of adopting ASU 2016-09 on retained earnings is zero.

In the first quarter of 2017, Repligen Germany GmbH was subject to a tax examination for the years 2012 through 2015. The examination was general in nature, covering all aspects of the subsidiary s operations prior to the Atoll Acquisition on April 1, 2016. There were no material findings as a result of this examination, and the examination was closed by the German tax authorities.

The Company s tax returns are subject to examination by federal, state and international taxing authorities for the following periods:

Jurisdiction	Fiscal years subject to examination

United States	federal and state	2013-2016
Sweden		2011-2016
Germany		2016

14. Fair Value Measurement

In determining the fair value of its assets and liabilities, the Company uses various valuation approaches. The Company employs a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company s assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances. The fair value hierarchy is broken down into three levels based on the source of inputs as follows:

Level 1	Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access
Level 2	Valuations based on quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active and models for which all significant inputs are observable, either directly or indirectly
Level 3	Valuations based on inputs that are unobservable and significant to the overall fair value measurement

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The availability of observable inputs can vary among the various types of financial assets and liabilities. To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for financial statement disclosure purposes, the level in the fair value hierarchy within which the fair value measurement is categorized is based on the lowest level input that is significant to the overall fair value measurement.

The Company s fixed income investments are comprised of obligations of U.S. government agencies and corporate marketable securities. These investments have been initially valued at the transaction price and subsequently valued, at the end of each reporting period, utilizing third party pricing services or other market observable data. The pricing services utilize industry standard valuation models, including both income and market based approaches and observable market inputs to determine value. These observable market inputs include reportable trades, benchmark yields, credit spreads, broker/dealer quotes, bids, offers, current spot rates and other industry and economic events. At least annually, the Company validates the prices provided by third party pricing services by reviewing their pricing methods and matrices, obtaining market values from other pricing sources, analyzing pricing data in certain instances and confirming that the relevant markets are active. The Company did not adjust or override any fair value measurements provided by the pricing services as of June 30, 2017.

The following fair value hierarchy table presents information about each major category of the Company s assets measured at fair value on a recurring basis as of June 30, 2017 (in thousands):

	Fair value measurement at reporting date using:			
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets:				
Money market funds	$ 94,863	$	$	$ 94,863
Corporate and other debt securities		2,744		2,744
Total	$ 94,863	$ 2,744	$	$ 97,607

The Company has no other assets or liabilities for which fair value measurement is either required or has been elected to be applied.

As of December 31, 2016, the Company had accrued liabilities with a fair value of $6,119,000 related to contingent consideration in connection with the Refine and Atoll business combinations. The contingent consideration related to Refine was based on actual 2016 revenues. The contingent consideration related to Atoll was based on meeting revenue growth targets in 2016. These valuations are Level 3 valuations, as the primary inputs are unobservable. All contingent consideration liabilities were paid in the first quarter of 2017.

The following table provides a rollforward of the fair value of contingent consideration (in thousands):

Balance at December 31, 2016	$ 6,119
Payments	(6,119)
Balance at June 30, 2017	$

In May 2016, the Company issued $115 million aggregate principal amount of the Notes due June 1, 2021. Interest is payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2016. As of June 30, 2017, the carrying value of the Notes was $97.2 million, net of unamortized discount, and the fair value of the Notes was approximately $165.5 million. The fair value of the Notes was determined based on the most recent trade activity of the Notes as of June 30, 2017. These valuations are Level 1 valuations, as the valuations are based on unadjusted quoted prices in active markets that the Company has the ability to access. The Notes are discussed in more detail in Note 11, Long Term Debt.

There were no re-measurements to fair value during the three months ended June 30, 2017 of financial assets and liabilities that are not measured at fair value on a recurring basis.

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15. Commitments and Contingencies

Future minimum rental commitments under the Company s leases as of June 30, 2017 are as follows (in thousands):

	Minimum Rental Commitments
2017 (six months remaining)	$ 1,355
2018	2,707
2019	2,567
2020	2,567
2021	2,567
Thereafter	1,812

16. Segment Reporting

The Company views its operations, makes decisions regarding how to allocate resources and manages its business as one operating segment. As a result, the financial information disclosed herein represents all of the material financial information related to the Company s principal operating segment.

The following table represents the Company s total revenue by geographic area (based on the location of the customer):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
United States	38%	45%	38%	37%
Sweden	29%	29%	28%	31%
United Kingdom and Ireland	14%	13%	14%	16%
Other	19%	13%	20%	16%
Total	100%	100%	100%	100%

Revenue from significant customers as a percentage of the Company s total revenue is as follows:

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
GE Healthcare	28%	28%	28%	31%
MilliporeSigma	19%	30%	20%	30%

Significant accounts receivable balances as a percentage of the Company s total trade accounts receivable are as follows:

	June 30, 2017	December 31, 2016
GE Healthcare	20%	26%
MilliporeSigma	15%	8%
Customer C	14%	

17. Subsequent Events

Acquisition of Spectrum, Inc.

On August 1, 2017, the Company completed the acquisition of Spectrum pursuant to the terms of the Agreement and Plan of Merger and Reorganization, dated as of June 22, 2017, by and among the Company and Spectrum (such acquisition, the Spectrum Acquisition).

Spectrum is a diversified filtration company with a differentiated portfolio of hollow fiber cartridges, bench-top to commercial scale filtration and perfusion systems and a broad portfolio of disposable and single-use solutions. Spectrum s products are primarily used for the filtration, isolation, purification and concentration of monoclonal antibodies, vaccines, recombinant proteins, diagnostic products and cell therapies where the company offers both standard and customized solutions to its bioprocessing customers.

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Spectrum s filtration products include its KrosFlo® line of hollow-fiber cartridges, tangential flow filtration (TFF) systems and single-use flow path consumables, as well as its Spectra/Por® portfolio of laboratory dialysis products and its Pro-Connex® single-use hollow fiber Module-Bag-Tubing (MBT) sets. Outside of filtration, the company sells its Spectra/Chrom® liquid chromatography products for research applications. These bioprocessing products account for the majority of Spectrum revenues. Spectrum also offers a line of operating room products.

The Spectrum Acquisition will be accounted for as a purchase of a business under ASC 805, Business Combinations. The Spectrum Acquisition was funded through payment of approximately $124.2 million in cash and 6,153,995 shares of the Company s common stock totaling $247.6 million for a total purchase price of $371.8 million.

Consideration Transferred

The Company accounted for the Spectrum Acquisition as a purchase of a business under U.S. GAAP. Under the acquisition method of accounting, the assets of Spectrum were recorded as of the acquisition date, at their respective fair values, and consolidated with those of the Company. The fair value of the net assets acquired was approximately $371.8 million.

The estimated consideration and preliminary purchase price information has been prepared using a preliminary valuation. An updated purchase price valuation and allocation will be completed in the third quarter of 2017. The preparation of the valuation required the use of significant assumptions and estimates. Critical estimates included, but were not limited to, future expected cash flows, including projected revenues and expenses, and the applicable discount rates. These estimates were based on assumptions that Repligen believes to be reasonable. However, actual results may differ from these estimates.

The total consideration transferred follows (in thousands):

Cash consideration	$ 124,686
Equity consideration	247,575
Less: working capital adjustment	(449)
Net assets acquired	$ 371,812

Acquisition related costs are not included as a component of consideration transferred, but are expensed in the periods in which the costs are incurred. The Company has incurred $2,395,000 in transaction costs related to the Spectrum Acquisition for the three- and six-month periods ended June 30, 2017. The transaction costs are included in selling, general and administrative expenses in the consolidated statements of operations.

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Fair Value of Net Assets Acquired

The allocation of purchase price was based on the fair value of assets acquired and liabilities based on the preliminary valuation. The components and allocation of the purchase price consists of the following amounts (in thousands):

Cash and cash equivalents	$ 7,071
Marketable securities	990
Accounts receivable	5,950
Inventory	11,349
Prepaid expenses and other current assets	891
Fixed assets	5,613
Customer relationships	73,530
Developed technology	37,630
Trademark and tradename	2,140
Non-competition agreements	770
Other assets	988
Goodwill	276,241
Accounts payable	(1,287)
Accrued liabilities	(2,248)
Deferred tax liabilities, net	(42,629)
Unrecognized tax benefit	(576)
Estimated closing indebtedness	(2,635)
Estimated transaction costs	(1,976)
Fair value of net assets acquired	$ 371,812

The preliminary purchase price allocation is subject to adjustment as purchase accounting is finalized. The final purchase price allocation will be determined upon completion of a final valuation analysis, and the fair value allocation of assets acquired and liabilities assumed could differ materially from the preliminary valuation analysis. The final allocation may include, but not be limited to, changes in the fair value of property, plant and equipment and changes in allocations to intangible assets and goodwill, as well as changes in the values of other assets and liabilities.

Due to the proximity of the closing date of the Spectrum Acquisition to the filing date of these financial statements, financial information from Spectrum, as well as other financial information related to the Spectrum Acquisition, could not be reasonably obtained in order to prepare pro forma financial statement disclosures as of and for the three- and six-month periods ended June 30, 2017.

Public Offering of Common Stock

On July 3, 2017, the Company completed a public offering in which 2,807,017 shares of its common stock were sold to the public at a price of $42.75 per share. The underwriters were granted an option, which they exercised in full, to purchase an additional 421,052 shares of the Company s common stock. The total proceeds from this offering, net of underwriting discounts, commissions and other offering expenses, totaled approximately $129.4 million.

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

Overview

We are a bioprocessing-focused, global life sciences company bringing over 30 years of expertise and innovation to our customers. Our mission is to inspire advances in bioprocessing as a trusted partner in the production of biologic drugs that improve human health worldwide.

Focused on delivering cost and process efficiencies, we offer innovative technologies that help set new standards in the way that our customers manufacture biologic drugs We develop and market a broad range of high-value products and flexible solutions that address critical steps in the production of biologic drugs principally antibody-based therapeutics, recombinant proteins and vaccines while ensuring that the highest drug quality and safety standards are upheld.

Since our strategic decision in 2012 to focus fully on building our bioprocessing business, we have expanded and diversified our product offering beyond our core Protein A affinity ligands portfolio, and believe we are well-positioned in the bioprocessing market as single-use and continuous processing technologies are increasingly adopted by biopharmaceutical manufacturers. This expansion has been through a combination of internal innovations and acquisitions. Our Proteins business today includes cell culture growth factors in addition to our longstanding Protein A ligands. In recent years, we have significantly expanded our Chromatography business, which includes our best-in-class OPUS® pre-packed columns as well as our ELISA kits and chromatography resins. In addition, we have established a Filtration business that includes our leading XCell ATF and TangenX tangential flow filtration (TFF) product lines, and with our acquisition of Spectrum, Inc. (Spectrum) on August 1, 2017 we added a diverse line of hollow fiber filtration products and systems through our acquisition of Spectrum, Inc.

Our team has substantial experience in biomanufacturing and works with industry leaders and customers to develop innovative solutions that address pressure points in the bioproduction process. Our bioprocessing products drive process efficiency, cost and yield improvements for our customers. In upstream processes, our XCell ATF filtration devices and cell culture supplements are used in clinical and commercial-stage manufacturing to improve biologic drug yields. In downstream processes, our Protein A ligands are a critical component of Protein A resins used to purify over 70 antibody-based drugs on the market and in over 300 drugs in clinical development. Also in downstream processes, our OPUS® pre-packed chromatography columns (PPCs) are used in the purification of clinical-stage biologics, and our TangenX Sius TFF filtration cassettes are used to concentrate clinical and commercial-stage biologic drugs.

We manufacture and supply our Protein products, such as Protein A ligands, through long-term agreements with major life sciences companies, such as GE Healthcare and MilliporeSigma, who in turn produce and sell Protein A resins to end users (biopharmaceutical companies and CMOs). We manufacture and supply our cell culture supplements through a distribution agreement with MilliporeSigma.

We sell our Chromatography and Filtration products directly to biopharmaceutical companies and contract manufacturing organizations (CMOs). These products are manufactured or assembled internally and marketed globally through a direct commercial organization in the United States (US) and Europe, and through a combination of direct sales and distributors in Asia. Since 2014, we have steadily invested in our global commercial organization to support our growing Chromatography and Filtration businesses; we have added 32 sales, marketing, product management, service and applications personnel to form a 40-person commercial team as of June 30, 2017. The acquisition of Spectrum further expands our commercial organization in the US and Europe, and adds a direct sales

presence in Asia Pacific regions.

Our commercial and R&D teams have a track record of launching new products and building new markets for acquired technologies. For example, since acquiring the XCell ATF business in 2014, we have expanded its market penetration through increased customer interaction, product extensions and new applications that increase flexibility and convenience for customers, while streamlining their biomanufacturing workflows.

Our acquisitions since 2012 have bolstered our direct-to-customer product offering. In 2014, we acquired our XCell ATF line from Refine Technologies LLC. We completed two acquisitions in 2016, acquiring Atoll GmbH (Atoll) in April (the Atoll Acquisition) and TangenX Technology Corporation (TangenX) in December (the TangenX Acquisition). The Atoll Acquisition strengthened our Chromatography business by broadening our line of OPUS® pre-packed columns (to include lab- and process development-scale columns) and establishing a customer-facing center in Europe. The TangenX Acquisition strengthened our Filtration business, balancing our existing upstream XCell ATF line with a downstream line of TangenX Sius TFF filtration products. On August 1, 2017, we completed the acquisition of Spectrum, a leader in bioprocess filtration with expertise in hollow fiber technology based in Rancho Dominguez, California (the Spectrum Acquisition). We believe the addition of Spectrum will strengthen our Filtration business and support our flagship XCell ATF product line with an extensive consumables portfolio. We also believe the Spectrum Acquisition will help diversify our markets beyond monoclonal antibody manufacturing, into vaccine and recombinant protein production.

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Our internal innovation has also driven the growth of our direct-to-customer product offerings. Internally, we developed and market our process-scale OPUS® pre-packed chromatography columns. Also through internal innovation, we have extended both our OPUS® and XCell ATF product lines, to include more size options and technology features to benefit our customers. For example in 2016 we introduced OPUS® R, a resin recovery feature on our largest OPUS® columns, and we launched a single-use (disposable) alternative to our stainless steel XCell ATF Systems, XCell ATF Single-use. Notably, the Spectrum Acquisition satisfies a strategic goal of owning the hollow fiber filter cartridges that can be used in our XCell ATF devices. Spectrum has historically been a key supplier of these filters to Repligen.

Many of our products are early in their adoption cycle and, together with the expansion of our commercial organization and strategic acquisitions, have contributed to product revenue expansion from $41.8 million in 2012 to $104.5 million in 2016. While all product franchises have grown, our diversification strategy has resulted in our direct product sales accounting for approximately 50% of our bioprocessing revenue in 2016, compared to approximately 20% in 2012. To meet increased demand for our products, we have increased and continue to increase the volume and scale of manufacturing at our two manufacturing facilities in the United States and Sweden and plan to expand manufacturing capacity at our newly acquired manufacturing facilities in the United States and Germany.

Customers use our products to produce initial quantities of drug for clinical studies, then scale-up to larger volumes as the drug progresses to commercial production following regulatory approval. Detailed specifications for a drug s manufacturing process are included in applications that must be approved by regulators, such as the U.S. Food and Drug Administration (FDA) and the European Medicines Agency, throughout the clinical trial process and prior to final commercial approval. As a result, products that become part of the manufacturing specifications of a late-stage clinical or commercial process can be very sticky due to the costs and uncertainties associated with displacing them.

Spectrum Acquisition

On June 22, 2017, the Company announced its entry into the Spectrum Merger Agreement. On August 1, 2017, the Company completed the Spectrum Acquisition for approximately $124.2 million in cash and 6,153,995 shares of the Company s common stock, subject to adjustment based on (i) cash and working capital adjustment provisions, (ii) the amount of Spectrum s transaction expenses and indebtedness that remain unpaid as of the closing of the merger, and (iii) indemnification obligations of holders of equity securities of Spectrum receiving merger consideration.

Spectrum is a diversified filtration company with a differentiated portfolio of hollow fiber cartridges, bench-top to commercial scale filtration and perfusion systems and a broad portfolio of disposable and single-use solutions. Spectrum s products are primarily used for the filtration, isolation, purification and concentration of monoclonal antibodies, vaccines, recombinant proteins, diagnostic products and cell therapies where the company offers both standard and customized solutions to its bioprocessing customers.

Spectrum s filtration products include its KrosFlo® line of hollow-fiber cartridges, tangential flow filtration (TFF) systems and single-use flow path consumables, as well as its Spectra/Por® portfolio of laboratory dialysis products and its Pro-Connex® single-use hollow fiber Module-Bag-Tubing (MBT) sets. Outside of filtration, the company sells its Spectra/Chrom® liquid chromatography products for research applications. These bioprocessing products account for the majority of Spectrum revenues. Spectrum also offers a line of operating room products.

Critical Accounting Policies and Estimates

A critical accounting policy is one which is both important to the portrayal of our financial condition and results and requires management s most difficult, subjective or complex judgments, often as a result of the need to make estimates

about the effect of matters that are inherently uncertain. For additional information, please see the discussion of our critical accounting policies in Management s Discussion and Analysis of Financial Condition and Results of Operations and our significant accounting policies in Note 2 to the Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2016.

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Results of Operations

Revenues

Product revenues for the three- and six-month periods ended June 30, 2017 and 2016 were as follows:

(in thousands, except percentages)	Three months ended June 30,				Six months ended June 30,			
	2017	2016	$ Change	% Change	2017	2016	$ Change	% Change
Product revenue	$ 32,434	$ 29,170	$ 3,264	11.2%	$ 63,003	$ 54,265	$ 8,738	16.1%
Royalty and other revenue	21		21	100.0%	42		42	100.0%
Total revenues	$ 32,455	$ 29,170	$ 3,285	11.3%	$ 63,045	$ 54,265	$ 8,780	16.2%

Sales of bioprocessing products increased 11.2% and 16.1% in the current three- and six-month periods, respectively, compared to the corresponding periods in the prior year. This increase was primarily due to increases in orders for our XCell ATF systems and OPUS pre-packed chromatography columns from our key bioprocessing customers, in addition to revenues from the Atoll Acquisition and the TangenX Acquisition in 2017. Sales of our bioprocessing products are impacted by the timing of orders, development efforts at our customers or end-users and regulatory approvals for biologics that incorporate our products, which may result in significant quarterly fluctuations. Such quarterly fluctuations are expected, but they may not be predictive of future revenue or otherwise indicate a trend.

Costs and operating expenses

Total costs and operating expenses for the three- and six-month periods ended June 30, 2017 and 2016 were comprised of the following:

(in thousands, except percentages)	Three months ended June 30,				Six months ended June 30,			
	2017	2016	$ Change	% Change	2017	2016	$ Change	% Change
Cost of product revenue	$ 13,937	$ 12,644	$ 1,293	10.2%	$ 27,926	$ 23,713	$ 4,213	17.8%
Research and development	1,860	1,890	(30)	(1.6%)	3,602	3,430	172	5.0%
Selling, general and administrative	11,185	8,140	3,045	37.4%	20,367	15,159	5,208	34.4%
Contingent consideration fair value adjustments		637	(637)	(100.0%)		2,642	(2,642)	(100.0%)
Total costs and operating expenses	$ 26,982	$ 23,311	$ 3,671	15.7%	$ 51,895	$ 44,944	$ 6,951	15.5%

Cost of product revenue increased 10.2% and 17.8% in the current three- and six-month periods, respectively, compared to the corresponding periods in the prior year. This increase is primarily due to the increased product revenues noted above and product mix. Gross margins may fluctuate in the third and fourth quarters of 2017 based on expected production volume and product mix.

Research and development expenses decreased 1.6% and increased 5.0% in the current three- and six-month periods, respectively, compared to the corresponding periods in the prior year. This increase is primarily related to the timing and scale of our various bioprocessing product development projects. Expenses generally include personnel costs, external development costs, supplies and other expenses related to our new products in development.

Selling, general and administrative expenses increased 37.4% and 34.4% in the current three- and six-month periods, respectively, compared to the corresponding periods in the prior year. This increase is primarily due to the continued buildout of our administrative infrastructure to support future growth, continued expansion of our customer-facing activities to drive sales of our bioprocessing products, additional expense resulting from our acquisitions of Atoll and TangenX and costs related to our pending acquisition of Spectrum.

Contingent consideration fair value adjustments were approximately $637,000 and $2,642,000 for the three- and six-month periods ended June 30, 2016. These fair value adjustments were related to the increased probability of achieving the 2016 sales milestone under the Refine acquisition agreement. There was no such expense in 2017, as the contingent consideration periods for the Atoll Acquisition and Refine Acquisition ended in 2016.

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Investment income

Investment income for the three- and six-month periods ended June 30, 2017 and 2016 was as follows:

(in thousands, except percentages)	Three months ended June 30,				Six months ended June 30,			
	2017	2016	$ Change	% Change	2017	2016	$ Change	% Change
Investment income	$ 110	$ 76	$ 34	44.7%	$ 206	$ 137	$ 69	50.4%

Investment income includes income earned on invested cash balances. Increases in investment income in the current three- and six-month periods, respectively, compared to the corresponding periods in the prior year are mainly attributable to higher average invested cash balances related to the receipt of proceeds from our issuance of convertible senior notes in May 2017.

Interest expense

Interest expense for the three- and six-month periods ended June 30, 2017 and 2016 was as follows:

(in thousands, except percentages)	Three months ended June 30,				Six months ended June 30,			
	2017	2016	$ Change	% Change	2017	2016	$ Change	% Change
Interest expense	$ (1,601)	$ (638)	$ (963)	150.9%	$ (3,187)	$ (643)	$ (2,544)	395.6%

Increases in interest expense in the current three- and six-month periods, respectively, compared to the corresponding periods in the prior year are attributable to interest expense related to the issuance of convertible senior notes in May 2017.

Other income (expense)

Other income (expense) for the three- and six-month periods ended June 30, 2017 and 2016 was as follows:

(in thousands, except percentages)	Three months ended June 30,				Six months ended June 30,			
	2017	2016	$ Change	% Change	2017	2016	$ Change	% Change
Other income (expense)	$ (328)	$ 75	$ (403)	(537.3%)	$ (448)	$ (904)	$ 456	50.4%

Changes in other income (expense) in the current three- and six-month periods, respectively, compared to the corresponding periods in the prior year are primarily attributable to foreign currency losses related to amounts due from non-Swedish kronor-based customers and cash balances denominated in U.S. dollars and British pounds held by our Sweden operations.

Income tax (benefit) provision

Income tax (benefit) provision for the three- and six-month periods ended June 30, 2017 and 2016 was as follows:

(in thousands, except percentages)	Three months ended June 30,				Six months ended June 30,			
	2017	2016	$ Change	% Change	2017	2016	$ Change	% Change
Income tax provision	$ (4,784)	$ 1,500	$ (6,284)	(418.9%)	$ (3,785)	$ 2,415	$ (6,200)	(256.7%)

For the three- and six-month periods ended June 30, 2017, we had income before taxes of $3,654,000 and $7,721,000, respectively, and recorded a tax benefit of ($4,784,000) and ($3,785,000), respectively. The effective tax rate was (130.9%) and (49.0%) for the three- and six-month periods ended June 30, 2017, respectively, and is based upon the estimated income for the year and the composition of the income in different jurisdictions. The effective tax rate was lower than the U.S. statutory tax rate of 34% primarily due to a benefit of approximately $5,625,000 related to the reduction of the Company s valuation allowance on its deferred tax assets resulting from the sale of certain intellectual property from Repligen Corporation to Repligen Sweden AB in the second quarter of 2017. For the three- and six-month periods ended June 30, 2016, we had income before taxes of $5,372,000 and $7,911,000, respectively, and recorded a tax provision of $1,500,000 and $2,415,000, respectively. The effective tax rate was 27.9% and 30.5% for the three- and six-month periods ended June 30, 2016, respectively, and is based upon the estimated income for the year and the composition of the income in different jurisdictions. The effective tax rate differs from the U.S. statutory tax rate primarily due to lower statutory tax rates in foreign jurisdictions and the tax treatment of contingent consideration expense recorded in the first half of 2016.

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Non-GAAP Financial Measures

We provide non-GAAP adjusted income from operations, adjusted net income, and adjusted EBITDA as supplemental measures to GAAP measures regarding our operating performance. A detailed explanation and a reconciliation of each non-GAAP financial measure to its most comparable GAAP financial measure are provided below.

We include this financial information because we believe these measures provide a more accurate comparison of our financial results between periods and more accurately reflect how management reviews its financial results. We excluded the impact of certain acquisition-related items because we believe that the resulting charges do not accurately reflect the performance of our ongoing operations for the period in which such charges are incurred.

In the first quarter of 2017, we began deducting intangible amortization in our presentation of non-GAAP financial metrics. The non-GAAP financial metrics included in our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016 and June 30, 2016 do not deduct intangible amortization. However, we have included a deduction for the non-GAAP financial metrics below for the three- and six-month periods ended March 31, 2016 and June 30, 2016 for comparability. As a result, the non-GAAP financial metrics below differ from those included in our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016 and June 30, 2016.

Adjusted Income from Operations

Adjusted income from operations is measured by taking income from operations as reported in accordance with GAAP and excluding acquisition costs, amortization of intangible assets and contingent consideration expense booked through our consolidated statements of comprehensive income. The following is a reconciliation of income from operations in accordance with GAAP to adjusted income from operations for the three- and six-month periods ended June 30, 2017 and 2016 (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	**2016**	**2017**	**2016**
GAAP income from operations	$ 5,473	$ 5,859	$ 11,150	$ 9,321
Non-GAAP adjustments to net income:				
Acquisition costs	2,385	725	2,787	1,118
Intangible amortization	769	533	1,484	932
Contingent consideration fair value adjustments		637		2,642
Non-GAAP adjusted income from operations	$ 8,627	$ 7,754	$ 15,421	$ 14,013

Adjusted Net Income

Adjusted net income is measured by taking net income as reported in accordance with GAAP and excluding acquisition costs, amortization of intangible assets and related tax effects, contingent consideration expense, non-cash interest expense and the partial release of the valuation allowance on our deferred tax assets booked through our consolidated statements of comprehensive income. The following is a reconciliation of net income in accordance with GAAP to adjusted net income for the three-month periods ended June 30, 2017 and 2016:

	Three Months Ended June 30,			
	2017		2016	
	(in thousands) Amount	Fully Diluted Earnings per Share	(in thousands) Amount	Fully Diluted Earnings per Share
GAAP net income	$ 8,438	$ 0.24	$ 3,872	$ 0.11
Non-GAAP adjustments to net income:				
Acquisition costs	2,385	0.07	725	0.02
Contingent consideration fair value adjustments			637	0.02
Intangible amortization	769	0.02	533	0.02
Non-cash interest expense	986	0.03	382	0.01
Tax effect of intangible amortization	(103)	(0.00)	(105)	(0.00)
Release of valuation allowance on deferred tax assets	(5,625)	(0.16)		
Non-GAAP adjusted net income	$ 6,850	$ 0.20	$ 6,044	$ 0.18

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The following is a reconciliation of net income in accordance with GAAP to non-GAAP adjusted net income for the six-month periods ended June 30, 2017 and 2016:

	Six Months Ended June 30,			
	2017		2016	
	(in thousands) Amount	Fully Diluted Earnings per Share	(in thousands) Amount	Fully Diluted Earnings per Share
GAAP net income	$ 11,506	$ 0.33	$ 5,496	$ 0.16
Non-GAAP adjustments to net income:				
Acquisition costs	2,787	0.08	1,118	0.03
Contingent consideration fair value adjustments			2,642	0.08
Intangible amortization	1,484	0.04	932	0.03
Non-cash interest expense	1,956	0.06	382	0.01
Tax effect of intangible amortization	(204)	(0.01)	(209)	(0.01)
Release of valuation allowance on deferred tax assets	(5,625)	(0.16)		
Non-GAAP adjusted net income	$ 11,904	$ 0.34	$ 10,361	$ 0.31

Per share totals may not add due to rounding.

Adjusted EBITDA

Adjusted EBITDA is measured by taking net income as reported in accordance with GAAP, excluding investment income, interest expense, taxes, depreciation and amortization, and excluding acquisition costs and contingent consideration expenses booked through our consolidated statements of comprehensive income. The following is a reconciliation of net income in accordance with GAAP to adjusted EBITDA for the three- and six-month periods ended June 30, 2017 and 2016 (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
GAAP net income	$ 8,438	$ 3,872	$ 11,506	$ 5,496
Non-GAAP EBITDA adjustments to net income:				
Investment income	(110)	(76)	(206)	(137)
Interest expense	1,601	638	3,187	643
Tax provision	(4,784)	1,500	(3,785)	2,415
Depreciation	929	785	1,858	1,536
Amortization	769	533	1,484	932
EBITDA	6,843	7,252	14,044	10,885

Other non-GAAP adjustments:				
Acquisition costs	2,385	725	2,787	1,118
Contingent consideration fair value adjustments		637		2,642
Adjusted EBITDA	$ 9,228	$ 8,614	$ 16,831	$ 14,645

Liquidity and Capital Resources

We have financed our operations primarily through revenues derived from product sales, research grants, proceeds and royalties from license arrangements, a litigation settlement, sales of equity securities and issuance of convertible debt. Our revenue for the foreseeable future will primarily be limited to our bioprocessing product revenue.

At June 30, 2017, we had cash and marketable securities of $144,951,000 compared to $141,780,000 at December 31, 2016. A deposit for leased office space of $450,000 is classified as restricted cash and is not included in cash and marketable securities totals as of June 30, 2017 and December 31, 2016.

On July 3, 2017, we completed a public offering in which 2,807,017 shares of our common stock were sold to the public at a price of $42.75 per share. The underwriters were granted an option, which they exercised in full, to purchase an additional 421,052 shares of our common stock. The total proceeds from this offering, net of underwriting discounts, commissions and other offering expenses, totaled approximately $129.4 million.

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On August 1, 2017, we completed our acquisition of Spectrum for approximately $124.2 million in cash and 6,153,995 shares of the Company s common stock.

Operating activities

For the six-month period ended June 30, 2017, our operating activities provided cash of $3,961,000 reflecting net income of $11,506,000 and non-cash charges totaling $2,941,000 primarily related to depreciation, amortization, non-cash interest expense, deferred tax expense and stock-based compensation charges. An increase in accounts receivable consumed $6,347,000 of cash, and was primarily due to the increase in revenues and timing of cash receipts from customers. An increase in inventories consumed $813,000 of cash to support future revenues. An increase in accounts payable provided $1,740,000 of cash, which was primarily due to the timing of purchases and payments to vendors. Payments of accrued liabilities consumed $4,216,000 of cash, and were mainly due to the payment of contingent consideration to Refine and Atoll related to 2016 sales milestones. The remaining cash flow provided by operations resulted from net unfavorable changes in various other working capital accounts.

For the six-month period ended June 30, 2016, our operating activities provided cash of $6,753,000 reflecting net income of $5,496,000 and non-cash charges totaling $7,766,000 including depreciation, amortization, non-cash interest expense, stock-based compensation charges, deferred tax expenses and the revaluation of contingent consideration. A decrease in accounts receivable provided $892,000 of cash, and was primarily due to the timing of cash receipts from customers. An increase in inventories consumed $5,093,000 of cash to support future revenues. Payments of accrued liabilities consumed $3,239,000 of cash, and was mainly due to the payment of contingent consideration to Refine related to 2015 sales milestones.

Investing activities

We place our marketable security investments in high quality credit instruments as specified in our investment policy guidelines. Our investing activities provided $14,132,000 for the six-month period ended June 30, 2017, primarily due to net redemptions of marketable securities of $16,808,000 offset by $2,676,000 used for fixed asset additions. For the six-month period ended June 30, 2016, our investing activities provided $20,000. Net redemptions of marketable debt securities provided $10,148,000 of cash. On April 1, 2016 we paid $8,767,000 as cash consideration for the Atoll Acquisition. Additionally, we used $1,406,000 of cash for fixed asset additions in the six-month period ended June 30, 2016.

Financing activities

For the six-month period ended June 30, 2017, our financing activities used $172,000 of cash. We made contingent consideration payments of $1,677,000 related to the initial valuation of the likelihood that the 2016 XCell ATF sales milestones and Atoll revenue growth milestones would be achieved. These payments were partially offset by proceeds from stock option exercises totaling $1,505,000. For the six-month period ended June 30, 2016, our financing activities provided $111,783,000 of cash. In May 2016, we received net proceeds of $111.3 million from the issuance of our 2.125% Convertible Senior Notes due 2021. For the six-month period ended June 30, 2016, proceeds from exercises of $958,000 were partially offset by contingent consideration payments of $498,000 which stemmed from the initial valuation of the likelihood that the 2015 ATF sales milestone would be achieved.

We do not currently use derivative financial instruments.

Working capital increased by approximately $16,348,000 to $179,426,000 at June 30, 2017 from $163,078,000 at December 31, 2016 due to the various changes noted above.

Our future capital requirements will depend on many factors, including the following:

- the expansion of our bioprocessing business;
- the ability to sustain sales and profits of our bioprocessing products;
- market acceptance of our new products;
- our ability to acquire additional bioprocessing products;
- the resources required to successfully integrate the acquisitions of Refine and Atoll and recognize expected synergies;
- our identification and execution of strategic acquisitions or business combinations;
- the scope of and progress made in our research and development activities;
- the extent of any share repurchase activity; and

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the success of any proposed financing efforts.

Absent acquisitions of additional businesses, products, product candidates or intellectual property, we believe our current cash balances are adequate to meet our cash needs for at least twelve months from the date of this filing. We expect operating expenses in the year ending December 31, 2017 to increase as we continue to expand our bioprocessing business. We expect to incur continued spending following the closing of the Spectrum Acquisition and otherwise related to the development and expansion of our bioprocessing product lines and expansion of our commercial capabilities for the foreseeable future. Our future capital requirements may include, but are not limited to, purchases of property, plant and equipment, the acquisition of additional bioprocessing products and technologies to complement our existing manufacturing capabilities, continued investment in our intellectual property portfolio and future repayment of convertible debt.

We plan to continue to invest in our bioprocessing business and in key research and development activities associated with the development of new bioprocessing products. We actively evaluate various strategic transactions on an ongoing basis, including monetizing existing assets and licensing or acquiring complementary products, technologies or businesses that would complement our existing portfolio of development programs. We continue to seek to acquire such potential assets that may offer us the best opportunity to create value for our shareholders. In order to acquire such assets, we may need to seek additional financing to fund these investments. This may require the issuance or sale of additional equity or debt securities. The sale of additional equity may result in additional dilution to our stockholders. Should we need to secure additional financing to acquire a product, fund future investment in research and development, or meet our future liquidity requirements, we may not be able to secure such financing, or obtain such financing on favorable terms because of the volatile nature of the biotechnology marketplace.

Off-Balance Sheet Arrangements

We do not have any special purpose entities or off-balance sheet financing arrangements as of June 30, 2017.

Cautionary Statement Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements which are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). The forward-looking statements in this Quarterly Report on Form 10-Q do not constitute guarantees of future performance. Investors are cautioned that statements in this Quarterly Report on Form 10-Q which are not strictly historical statements, including, without limitation, express or implied statements or guidance regarding current or future financial performance and position, potential impairment of future earnings, management s strategy, plans and objectives for future operations or acquisitions, product development and sales, litigation strategy, product candidate research, development and regulatory approval, selling, general and administrative expenditures, intellectual property, development and manufacturing plans, availability of materials and product and adequacy of capital resources and financing plans constitute forward-looking statements. Such forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated, including, without limitation, risks associated with: the success of current and future collaborative or supply relationships, including our agreements with BioMarin, General Electric and MilliporeSigma, our ability to successfully grow our bioprocessing business, including as a result of acquisition, commercialization or partnership opportunities, and our ability to develop and commercialize products, our ability to obtain required regulatory approvals, our compliance with all Food and Drug Administration regulations, our ability to obtain, maintain and protect intellectual property rights for our products, the risk of litigation regarding our patent and other intellectual property rights, the risk of litigation with collaborative partners, our limited sales and marketing experience and capabilities, our limited manufacturing capabilities and our dependence on third-party manufacturers and value-added resellers, our ability to hire and retain skilled personnel, the market acceptance of our products,

reduced demand for our products that adversely impacts our future revenues, cash flows, results of operations and financial condition, our ability to compete with larger, better financed life sciences companies, our history of losses and expectation of incurring losses, our ability to generate future revenues, our ability to successfully integrate Refine, Atoll and TangenX, our ability to raise additional capital to fund potential acquisitions, our volatile stock price, and the effects of our anti-takeover provisions. Further information on potential risk factors that could affect our financial results are included in the filings made by us from time to time with the Securities and Exchange Commission including under the section entitled Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2016 and in this Quarterly Report on Form 10-Q.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate risk

We have investments in U.S. Government and agency securities. As a result, we are exposed to potential loss from market risks that may occur as a result of changes in interest rates, changes in credit quality of the issuer or otherwise.

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We generally place our marketable security investments in high quality credit instruments, as specified in our investment policy guidelines. A hypothetical 100 basis point increase in interest rates would result in an approximate $5,000 decrease in the fair value of our investments as of June 30, 2017. We believe, however, that the conservative nature of our investments mitigates our interest rate exposure, and our investment policy limits the amount of our credit exposure to any one issuer, (with the exception of U.S. agency obligations) and type of instrument. We do not expect any material loss from our marketable security investments and therefore believe that our potential interest rate exposure is limited.

Foreign exchange risk

The reporting currency of the Company is U.S. dollars. Transactions by Repligen Sweden, a wholly-owned subsidiary, may be denominated in Swedish kronor, British pound sterling, U.S. dollars, or Euros while the entity s functional currency is the Swedish krona. Transactions by Repligen Germany GmbH, a wholly-owned subsidiary, may be denominated in U.S. dollars or Euros while the entity s functional currency is the Euro. Certain sales transactions made by the U.S. entity related to XCell ATF system products are denominated in foreign currencies. Exchange gains or losses resulting from the translation between the transactional currency and the functional currency are included in net income. Fluctuations in exchange rates may adversely affect our results of operations, financial position and cash flows. We currently do not seek to hedge this exposure to fluctuations in exchange rates.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

The Company s management, with the participation of the principal executive officer and the principal financial officer, has evaluated the effectiveness of the Company s disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)) as of the end of the period covered by this report. Based on such evaluation, the principal executive officer and principal financial officer have concluded that, as of the end of such period, the Company s disclosure controls and procedures were effective in ensuring that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, on a timely basis, and is accumulated and communicated to the Company s management, including the Company s principal executive officer and the Company s principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control

On December 14, 2016, we completed our acquisition of TangenX Technology Corporation. As a result, we are in the process of integrating the business into our control environment and determining the need for additional controls in our internal control over financial reporting. Other than the foregoing, there have been no changes in our internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Securities Exchange Act Rule 13a-15 or Rule 15d-15 that occurred in the three months ended June 30, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, we may be subject to legal proceedings and claims in the ordinary course of business. We are not currently aware of any such proceedings or claims that we believe will have, individually or in the aggregate, a material adverse effect on our business, financial condition or results of operations.

ITEM 1A. RISK FACTORS

The following information updates, and should be read in conjunction with, the factors discussed in Part I, Item 1A, Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2016, which could materially affect our business, financial condition or future results. The risks described in our Annual Report on Form 10-K, as updated in our Quarterly Report for the quarter ended March 31, 2017 and this Quarterly Report, are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition or operating results.

Risks Related to the Spectrum Acquisition

Spectrum may have unknown liabilities or liabilities which exceed our estimates. Any such liabilities could adversely affect the financial position of the combined company.

Spectrum s business activities may have associated with them various potential liabilities relating to the conduct of its business prior to the Spectrum Acquisition, including, but not limited to, product liability, historical tax matters and other potential liabilities that could adversely affect the financial position of the combined company. We have assumed these potential liabilities since August 1, 2017. While we have evaluated and continue to evaluate what we believe to be the most significant of these potential liabilities, it is possible that certain unknown liabilities could be realized and other liabilities (including those that we have fully evaluated and those that we have not fully evaluated) may exceed our estimates. Spectrum and its security holders obligation to indemnify us is limited to approximately $36.0 million, subject to limited exceptions. If any issues were to arise, we may not be entitled to sufficient, or any, indemnification or recourse from Spectrum and its shareholders, which could have a materially adverse impact on our business and results of operations.

The Spectrum Acquisition could possibly create numerous risks and uncertainties, which could adversely affect our financial condition and operating results.

Strategic transactions like the Spectrum Acquisition create numerous uncertainties and risks. Given that Spectrum is now our wholly-owned subsidiary, we expect that the acquisition will result in a loss per share on a GAAP basis for us in 2017. Further, the addition of Spectrum to our business will entail many changes, including the integration of Spectrum and its personnel, changes in systems and employee benefit plans and management of multiple geographic locations. These transition activities are complex and we may encounter unexpected difficulties, incur unexpected costs or experience business disruptions, including as a result of:

disruption of our ongoing businesses and increased commitments for the management team, including the need to divert management s attention to integration matters, particularly if we are unable to recruit, hire and retain key personnel;

difficulties in retaining Spectrum s key personnel and its sales force;

difficulties in integrating Spectrum s products, systems, sales force, internal controls over financial reporting and technologies;

changes in market demand for Spectrum s products;

risks associated with acquiring intellectual property;

difficulties in operating Spectrum profitably;

difficulties in transitioning and maintaining key manufacturer, customer, distributor and supplier relationships;

our inexperience with Spectrum s customers and our ability to meet or exceed such customers service level expectations and Spectrum s contractual obligations with respect to such customers;

difficulties realizing the revenue projections, growth prospects, financial benefits, synergies, market position and other strategic opportunities anticipated in connection with the acquisition;

risks associated with entering foreign markets in which we have no or limited prior experience;

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potential disputes regarding Spectrum s intellectual property;

potential disputes with the sellers of Spectrum; and

difficulties in the assimilation and retention of employees, including key personnel responsible for the success of Spectrum s operations.

If any of these factors limits our ability to integrate Spectrum into our operations successfully or on a timely basis, the expectations of future results of operations, including certain synergies, might not be met. As a result, we may not be able to realize the expected benefits that we sought to achieve from the acquisition, which could result in declines in the market value of our common stock. In addition, we may be required to spend additional time or money on integration that otherwise would be spent on the development and expansion of our business, including efforts to further expand our product portfolio.

We acquired Spectrum under certain assumptions that may prove to be materially inaccurate.

Our assumptions may be inaccurate, including as the result of higher than expected transaction and integration costs as well as general economic and business conditions that could adversely affect the combined company. For example, the purchase price for Spectrum was significantly more than Spectrum s net book value as of April 1, 2017. Accordingly, we will record a substantial amount of goodwill and other intangible assets as a result of the acquisition. In the event that industry, competitive or technological factors become unfavorable, we may incur future impairment of the value of goodwill and other intangible assets acquired through the acquisition. Under GAAP, we are not allowed to amortize goodwill or other indefinite-lived intangible assets. Instead, we are required to periodically determine if our goodwill and other indefinite-lived intangible assets have become impaired, in which case we would write down the impaired portion of our goodwill and/or other indefinite-lived intangible assets. If we were required to write down all or part of our goodwill or other indefinite-lived intangible assets, our net income (loss) and stockholders equity could be materially and adversely affected.

Risks Related to the Business of Spectrum

Spectrum s operating results and financial condition may fluctuate.

Spectrum s operating results and financial condition may fluctuate from quarter to quarter and year to year for a number of reasons. The following events or occurrences, among others, could cause fluctuations in its financial performance from period to period:

loss of revenue from Repligen as a customer;

development of new competitive products by others;

changes in the amount it spends to promote its products and develop new technologies;

changes in technology that may render its products obsolete;

increases in the cost of raw materials used to manufacture its products;

manufacturing and supply interruptions, including failure to comply with manufacturing specifications;

the impact of third party patents and other intellectual property rights which it may be found to infringe, or may be required to license, and the potential damages or other costs it may be required to pay as a result of a finding that it infringes such intellectual property rights;

the mix of products that it may sell during any time period;

lower than expected demand for its products;

its response to price competition;

expenditures as a result of legal actions;

the impairment and write-down of goodwill or other intangible assets;

general economic and industry conditions, including changes in interest rates affecting returns on cash balances and investments that affect customer demand;

impairment or write-down of investments or long-lived assets;

costs and outcomes of tax audits, including an ongoing audit by the Internal Revenue Commission;

fluctuations in foreign currency exchange rates; and

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risks related to the growth of its business across numerous countries world-wide and the inherent international economic, regulatory, political and business risks.

Spectrum s products are subject to quality control requirements.

Whether a product is produced by Spectrum or purchased from outside suppliers, it is subjected to quality control procedures, including the verification of porosity and with certain products, the complete validation for good manufacturing practices, U.S. Food and Drug Administration, CE and ISO 2001 compliance, prior to final packaging. Quality control is performed by a staff of technicians utilizing calibrated equipment. In the event Spectrum, or its manufacturers, produce batches of product that fail to comply with required quality standards, it may incur delays in fulfilling orders, write-downs, damage to its reputation and damages resulting from product liability claims.

Spectrum s business could suffer as a result of manufacturing difficulties or delays.

Spectrum s business could suffer if certain manufacturing or other equipment, or a portion or all of its facilities were to become inoperable for a period of time. This could occur for various reasons, including catastrophic events such as earthquake, monsoon, hurricane or explosion, unexpected equipment failures or delays in obtaining components or replacements thereof, as well as construction delays or defects and other events, both within and outside of our control. Spectrum s largest manufacturing facility is in Rancho Dominguez, California, which is an area that is prone to earthquakes and other natural disasters. Any inability to timely manufacture its products could have a material adverse effect on Spectrum s results of operations, financial condition and cash flows.

If Spectrum is unable to obtain or maintain its intellectual property, its operations may be adversely affected.

Spectrums endeavors to obtain and maintain the patents and trade secrets that it utilizes in its manufacturing process. Its commercial success will depend, in part, on its ability to:

obtain and maintain patent protection for its products and manufacturing processes;

preserve its trade secrets;

operate without infringing the proprietary rights of third parties; and

obtain any necessary licenses from others on acceptable terms.

We cannot be sure that any patent applications relating to Spectrum s products that it files in the future or that any currently pending applications will issue on a timely basis, if ever. Even if patents are issued, the degree of protection afforded by such patents will depend upon the scope of the patent claims, the validity and enforceability of the claims obtained and our willingness and financial ability to enforce such patents.

The patent position of life sciences companies is often highly uncertain and usually involves complex legal and scientific questions. In some cases, litigation or other proceedings may be necessary to assert claims of infringement, to enforce patents issued to Spectrum. Such litigation could result in substantial cost to Spectrum and diversion of its resources. An adverse outcome in any such litigation or proceeding could have a material adverse effect on Spectrum s business, financial condition and results of operations.

Spectrum s global operations expose it to risks and challenges associated with conducting business internationally.

Spectrum operates on a global basis with offices or activities in Japan, South Korea, China, India, Europe and North America. Spectrum faces several risks inherent in conducting business internationally, including compliance with international and U.S. laws and regulations that apply to its international operations. These laws and regulations include data privacy requirements, labor relations laws, tax laws, real estate and property laws, anti-competition regulations, import and trade restrictions, export requirements, U.S. laws such as the Foreign Corrupt Practices Act, and other U.S. federal laws and regulations established by the office of Foreign Asset Control, local laws such as the UK Bribery Act 2010 or other local laws which prohibit corrupt payments to governmental officials or certain payments or remunerations to customers. Given the high level of complexity of these laws, however, there is a risk that some provisions may be inadvertently breached by Spectrum, for example through fraudulent or negligent behavior of individual employees, its failure to comply with certain formal documentation requirements, or otherwise. Violations of these laws and regulations could result in fines, criminal sanctions against Spectrum, its officers or its employees, requirements to obtain export licenses, cessation of business activities in sanctioned countries, implementation of compliance programs, and prohibitions on the conduct of our business. Any such violations could include prohibitions on Spectrum s ability to offer its products in one or more countries and could materially damage its reputation, brand, international expansion efforts and operating results.

Foreign currency fluctuations could adversely affect Spectrum s business and financial results.

Spectrum does business and generates sales in numerous countries outside the United States. As such, foreign currency fluctuations may affect the costs that it incurs in such international operations. Some of its operating expenses are incurred in non-U.S. dollar currencies. The appreciation of non-U.S. dollar currencies in those countries where it has operations against the U.S. dollar could increase our costs and could harm our results of operations and financial condition.

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Spectrum s foreign operations may become less attractive if political and diplomatic relations between the United States and any country where it conducts business operations deteriorates.

The relationship between the United States and the foreign countries where Spectrum conducts business operations may weaken over time. Changes in the state of the relations between any such country and the United States are difficult to predict and could adversely affect Spectrum s future operations. This could lead to a decline in its profitability. Any meaningful deterioration of the political and diplomatic relations between the United States and the relevant country could have a material adverse effect on Spectrum s operations.

Spectrum may be exposed to liabilities under the Foreign Corrupt Practices Act, and any determination that it violated the Foreign Corrupt Practices Act could have a material adverse effect on our business.

Spectrum is subject to the Foreign Corrupt Practice Act, or the FCPA, and other laws that prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and issuers as defined by the statute for the purpose of obtaining or retaining business. Spectrum has significant operations, agreements with third parties and sales in jurisdictions outside of the U.S., which may experience corruption. Spectrum s activities in jurisdictions outside of the U.S. create the risk of unauthorized payments or offers of payments by one of our employees, consultants, sales agents or distributors, because these parties are not always subject to our control. Violations of the FCPA may result in severe criminal or civil sanctions, and Spectrum may be subject to other liabilities, which could negatively affect its business, operating results and financial condition.

Prior to the Spectrum Acquisition, Spectrum was a private company and has not previously been subject to the Sarbanes-Oxley Act of 2002, the rules and regulations of the SEC or other corporate governance requirements.

Prior to its acquisition by us, Spectrum was a private company and has not been subject to the Sarbanes-Oxley Act of 2002, the rules and regulations of the SEC, or other corporate governance requirements to which public reporting companies may be subject. As a result, we are required to implement the appropriate internal control processes and procedures over Spectrum s financial accounting and reporting. We may incur significant legal, accounting and other expenses in efforts to meet these requirements, which may include additional staffing, infrastructure investments and improving Spectrum s finance function systems and process. Implementing the controls and procedures at Spectrum that are required to comply with the various applicable laws and regulations may place a significant burden on our management and internal resources. The diversion of management s attention and any difficulties encountered in such an implementation could adversely affect our business, financial condition and operating results.

Risks Related to Our Business

If we are unable to obtain or maintain our intellectual property, we may not be able to succeed commercially.

We endeavor to obtain and maintain trade secrets and, to a lesser extent, patent protection for our products and processes when available in order to protect them from unauthorized use and to produce a financial return consistent with the significant time and expense required to bring our products to market. Our success will depend, in part, on our ability to:

preserve our trade secrets and know-how;

operate without infringing the proprietary rights of third parties;

obtain and maintain patent protection for our products and manufacturing processes; and

secure any necessary licenses from others on acceptable terms.

We consider trade secrets, know-how and other forms of market protection to be among the most important elements of our proprietary position. We also own or have exclusive rights to a number of U.S. patents and U.S. pending patent applications as well as corresponding foreign patents and patent applications. We continue to actively and selectively pursue patent protection and seek to expand our patent estate, and we cannot be sure that any patent applications relating to our products that we will file in the future or that any currently pending applications will issue on a timely basis, if ever. We cannot be certain that we were the first to make the inventions covered by each of our pending patent applications or that we were the first to file patent applications for such inventions. Even if patents are issued, the degree of protection afforded by such patents will depend upon the:

scope of the patent claims;

validity and enforceability of the claims obtained in such patents; and

our willingness and financial ability to enforce and/or defend them.

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The patent position of life sciences companies is often highly uncertain and usually involves complex legal and scientific questions. Patents which may be granted to us in certain foreign countries may be subject to opposition proceedings brought by third parties or result in suits by us, which may be costly and result in adverse consequences for us.

In some cases, litigation or other proceedings may be necessary to assert claims of infringement, to enforce patents issued to us or our licensors, to protect trade secrets, know-how or other intellectual property rights we own or to determine the scope and validity of the proprietary rights of third parties. Such litigation could result in substantial cost to us and diversion of our resources. An adverse outcome in any such litigation or proceeding could have a material adverse effect on our business, financial condition and results of operations. If our competitors prepare and file patent applications in the United States that claim technology also claimed by us, we may be required to participate in interference proceedings declared by the U.S. Patent and Trademark Office to determine priority of invention, which would result in substantial costs to us.

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

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

(a) Exhibits

Exhibit Number	Document Description
2.1	Agreement and Plan of Merger and Reorganization, dated June 22, 2017, by and among Repligen Corporation, Top Hat,

	Inc., Swing Time, LLC, Spectrum, Inc., and Roy T. Eddleman (filed as Exhibit 2.1 to Repligen Corporation s Current Report on Form 8-K filed on June 23, 2017 and incorporated herein by reference).
3.1	Restated Certificate of Incorporation, dated June 30, 1992 and amended September 17, 1999 (filed as Exhibit 3.1 to Repligen Corporation s Quarterly Report on Form 10-Q for the quarter ended September 30, 1999 and incorporated herein by reference).
3.2	Certificate of Amendment to the Certificate of Incorporation of Repligen Corporation, effective as of May 16, 2014 (filed as Exhibit 3.1 to Repligen Corporation s Current Report on Form 8-K filed on May 19, 2014 and incorporated herein by reference).
3.3	Second Amended and Restated Bylaws (filed as Exhibit 3.1 to Repligen Corporation s Current Report on Form 8-K filed on May 23, 2017 and incorporated herein by reference).
10.1	Stockholder Agreement, dated June 22, 2017, by and between Repligen Corporation and Roy T. Eddleman (filed as Exhibit 10.1 to Repligen Corporation s Current Report on Form 8-K filed on June 23, 2017 and incorporated herein by reference).
31.1 +	Rule 13a-14(a)/15d-14(a) Certification.
31.2 +	Rule 13a-14(a)/15d-14(a) Certification.
32.1*	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101+	The following materials from Repligen Corporation on Form 10-Q for the quarterly period ended March 31, 2017, formatted in Extensible Business Reporting Language (xBRL): (i) Condensed Consolidated Statements of Comprehensive Income (Loss), (ii) Condensed Consolidated Balance Sheets, (iii) Condensed Consolidated Statements of Cash Flows, and (iv) Notes to Condensed Consolidated Financial Statements, tagged as blocks of text.

+ Filed herewith.
* Furnished herewith.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

REPLIGEN CORPORATION

Date: August 3, 2017 By: /s/ TONY J. HUNT
Tony J. Hunt
President and Chief Executive Officer
(Principal executive officer)
Repligen Corporation

Date: August 3, 2017 By: /s/ JON SNODGRES
Jon Snodgres
Chief Financial Officer
(Principal financial officer)
Repligen Corporation