UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-Q

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

For the quarterly period ended **March 31, 2019**

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: 000-19271

IDEXX LABORATORIES, INC.

(Exact name of registrant as specified in its charter)

DELAWARE	**01-0393723**
(State or other jurisdiction of incorporation or organization)	*(IRS Employer Identification No.)*
ONE IDEXX DRIVE, WESTBROOK, MAINE	**04092**
(Address of principal executive offices)	*(ZIP Code)*

207-556-0300

(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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, smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date. The number of shares outstanding of the registrant's Common Stock, $0.10 par value per share, was 86,006,332 on April 26, 2019.

GLOSSARY OF TERMS AND SELECTED ABBREVIATIONS

In order to aid the reader, we have included certain terms and abbreviations used throughout this Quarterly Report on Form 10-Q below:

Term/ Abbreviation	Definition
AOCI	Accumulated other comprehensive income or loss
ASU 2016-02	ASU 2016-02, *Leases (Topic 842);* also referred to as the "New Leasing Standard"
CAG	Companion Animal Group, a reporting segment that provides veterinarians diagnostic products and services and information management solutions that enhance the health and well-being of pets
Credit Facility	Our $850 million five-year unsecured revolving credit facility under an amended and restated credit agreement that was executed in December 2015, also referred to as line of credit
FASB	U.S. Financial Accounting Standards Board
LPD	Livestock, Poultry and Dairy, a reporting segment that provides diagnostic products and services for livestock and poultry health and to ensure the quality and safety of milk and improve dairy efficiency
OPTI Medical	OPTI Medical Systems, Inc., a wholly-owned subsidiary of IDEXX Laboratories Inc., located in Roswell, Georgia. This business manufactures and supplies blood gas analyzers and consumables worldwide for the human point-of-care medical diagnostics market. The Roswell facility also manufactures electrolytes slides (instrument consumables) to run Catalyst One®, Catalyst Dx®, and blood gas analyzers and consumables for the veterinary market; also referred to as OPTI.
Organic revenue growth	A non-GAAP financial measure and represents the percentage change in revenue, as compared to the same period for the prior year, net of the effect of changes in foreign currency exchange rates, certain business acquisitions and divestitures. Organic revenue growth should be considered in addition to, and not as a replacement for or as a superior measure to, revenues reported in accordance with U.S. GAAP, and may not be comparable to similarly titled measures reported by other companies.
R&D	Research and Development
Reported revenue growth	Represents the percentage change in revenue reported in accordance with U.S. GAAP, as compared to the same period in the prior year
SaaS	Software-as-a-service
SEC	U.S. Securities and Exchange Commission
Senior Note Agreements	Note purchase agreements for the private placement of senior notes having an aggregate principal amount of approximately $700 million, referred to as senior notes or long-term debt
U.S. GAAP	Accounting principles generally accepted in the United States of America
Water	Water, a reporting segment that provides water microbiology testing products

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PART I— FINANCIAL INFORMATION

Item 1. Financial Statements.

IDEXX LABORATORIES, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands, except per share amounts)
(Unaudited)

	March 31, 2019	December 31, 2018
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 116,616	$ 123,794
Accounts receivable, net of reserves of $4,566 in 2019 and $4,702 in 2018	281,159	248,855
Inventories	189,468	173,303
Other current assets	110,403	108,220
Total current assets	697,646	654,172
Long-Term Assets:		
Property and equipment, net	449,103	437,270
Operating lease right-of-use assets (Notes 2 and 6)	80,594	—
Goodwill	214,517	214,489
Intangible assets, net	39,499	41,825
Other long-term assets	199,609	189,593
Total long-term assets	983,322	883,177
TOTAL ASSETS	$ 1,680,968	$ 1,537,349
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current Liabilities:		
Accounts payable	$ 70,143	$ 69,534
Accrued liabilities	229,127	260,683
Line of credit	346,998	398,937
Current portion of deferred revenue	43,351	41,290
Total current liabilities	689,619	770,444
Long-Term Liabilities:		
Deferred income tax liabilities	32,931	29,267
Long-term debt	699,334	601,348
Long-term deferred revenue, net of current portion	55,695	60,697
Long-term operating lease liabilities (Notes 2 and 6)	68,955	—
Other long-term liabilities	82,564	84,826
Total long-term liabilities	939,479	776,138
Total liabilities	1,629,098	1,546,582
Commitments and Contingencies (Note 14)		
Stockholders' Equity (Deficit):		
Common stock, $0.10 par value: Authorized: 120,000 shares; Issued: 105,345 shares in 2019 and 105,087 shares in 2018; Outstanding: 86,054 shares in 2019 and 86,100 shares in 2018	10,535	10,509
Additional paid-in capital	1,155,875	1,138,216
Deferred stock units: Outstanding: 162 units in 2019 and 2018	4,592	4,524
Retained earnings	1,270,609	1,167,928
Accumulated other comprehensive loss	(40,015)	(41,791)
Treasury stock, at cost: 19,290 shares in 2019 and 18,988 shares in 2018	(2,350,034)	(2,288,899)
Total IDEXX Laboratories, Inc. stockholders' equity (deficit)	51,562	(9,513)
Noncontrolling interest	308	280
Total stockholders' equity (deficit)	51,870	(9,233)
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)	$ 1,680,968	$ 1,537,349

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

IDEXX LABORATORIES, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share amounts)
(Unaudited)

	For the Three Months Ended March 31,	
	2019	**2018**
Revenue:		
Product revenue	$ 334,058	$ 317,440
Service revenue	241,998	220,216
Total revenue	576,056	537,656
Cost of Revenue:		
Cost of product revenue	117,383	118,246
Cost of service revenue	127,076	116,311
Total cost of revenue	244,459	234,557
Gross profit	331,597	303,099
Expenses:		
Sales and marketing	106,584	100,101
General and administrative	60,361	60,931
Research and development	31,514	29,023
Income from operations	133,138	113,044
Interest expense	(8,386)	(9,274)
Interest income	40	579
Income before provision for income taxes	124,792	104,349
Provision for income taxes	22,083	14,873
Net income	102,709	89,476
Less: Net income attributable to noncontrolling interest	28	25
Net income attributable to IDEXX Laboratories, Inc. stockholders	$ 102,681	$ 89,451
Earnings per Share:		
Basic	$ 1.19	$ 1.02
Diluted	$ 1.17	$ 1.01
Weighted Average Shares Outstanding:		
Basic	86,204	87,331
Diluted	87,549	88,944

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

IDEXX LABORATORIES, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)

(Unaudited)

	For the Three Months Ended March 31,	
	2019	2018
Net income	$ 102,709	$ 89,476
Other comprehensive income (loss), net of tax:		
Foreign currency translation adjustments	(1,423)	5,165
Unrealized gain (loss) on net investment hedge	1,480	(2,216)
Unrealized gain on investments, net of tax expense of $128 in 2019 and $40 in 2018	407	118
Unrealized gain (loss) on derivative instruments:		
Unrealized gain (loss), net of tax expense (benefit) of $531 in 2019 and $(377) in 2018	2,474	(2,388)
Reclassification adjustment for (gain) loss included in net income, net of tax (expense) benefit of $(249) in 2019 and $250 in 2018	(1,162)	1,585
Unrealized gain (loss) on derivative instruments	1,312	(803)
Other comprehensive gain, net of tax	1,776	2,264
Comprehensive income	104,485	91,740
Less: Comprehensive income attributable to noncontrolling interest	28	25
Comprehensive income attributable to IDEXX Laboratories, Inc.	$ 104,457	$ 91,715

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

IDEXX LABORATORIES, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

(in thousands, except per share amounts)

(Unaudited)

	Common Stock								
	Number of Shares	$0.10 Par Value	Additional Paid-in Capital	Deferred Stock Units	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock	Noncontrolling Interest	Total Stockholders' Equity (Deficit)
Balance December 31, 2017	104,275	$ 10,428	$ 1,073,931	$ 5,988	$ 803,545	$ (36,470)	$ (1,911,528)	$ 264	$ (53,842)
Cumulative effect of accounting changes	—	—	—	—	(12,648)	—	—	—	(12,648)
Balance January 1, 2018	104,275	$ 10,428	$ 1,073,931	$ 5,988	$ 790,897	$ (36,470)	$ (1,911,528)	$ 264	$ (66,490)
Net income	—	—	—	—	89,451	—	—	25	89,476
Other comprehensive income, net	—	—	—	—	—	2,264	—	—	2,264
Repurchases of common stock, net	—	—	—	—	—	—	(94,285)	—	(94,285)
Common stock issued under stock plans	401	40	14,311	(259)	—	—	—	—	14,092
Share-based compensation cost	—	—	5,917	43	—	—	—	—	5,960
Balance March 31, 2018	104,676	$ 10,468	$ 1,094,159	$ 5,772	$ 880,348	$ (34,206)	$ (2,005,813)	$ 289	$ (48,983)
Balance December 31, 2018	105,087	10,509	1,138,216	4,524	1,167,928	(41,791)	(2,288,899)	280	(9,233)
Net income	—	—	—	—	102,681	—	—	28	102,709
Other comprehensive income, net	—	—	—	—	—	1,776	—	—	1,776
Repurchases of common stock, net	—	—	—	—	—	—	(61,135)	—	(61,135)
Common stock issued under stock plans	258	26	11,393	—	—	—	—	—	11,419
Share-based compensation cost	—	—	6,266	68	—	—	—	—	6,334
Balance March 31, 2019	105,345	$ 10,535	$ 1,155,875	$ 4,592	$ 1,270,609	$ (40,015)	$ (2,350,034)	$ 308	$ 51,870

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

IDEXX LABORATORIES, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(Unaudited)

	For the Three Months Ended March 31,	
	2019	**2018**
Cash Flows from Operating Activities:		
Net income	$ 102,709	$ 89,476
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	21,355	20,804
Benefit of deferred income taxes	3,294	3,005
Share-based compensation expense	6,334	5,960
Other	628	1,091
Changes in assets and liabilities:		
Accounts receivable	(33,421)	(21,800)
Inventories	(14,521)	(8,070)
Other assets and liabilities	(49,601)	(52,302)
Accounts payable	699	(1,939)
Deferred revenue	(3,098)	(1,327)
Net cash provided by operating activities	34,378	34,898
Cash Flows from Investing Activities:		
Purchases of property and equipment	(38,206)	(23,726)
Purchase of marketable securities	—	(87)
Proceeds from the sale and maturities of marketable securities	—	284,125
Net cash (used) provided by investing activities	(38,206)	260,312
Cash Flows from Financing Activities:		
Repayments on revolving credit facilities, net	(52,024)	(247,500)
Issuance of senior notes	100,000	—
Debt issuance costs	(30)	—
Payment of acquisition-related contingent consideration	(573)	—
Repurchases of common stock	(54,302)	(83,487)
Proceeds from exercises of stock options and employee stock purchase plans	11,551	14,551
Shares withheld for statutory tax withholding on restricted stock	(7,403)	(8,555)
Net cash used by financing activities	(2,781)	(324,991)
Net effect of changes in exchange rates on cash	(569)	1,335
Net decrease in cash and cash equivalents	(7,178)	(28,446)
Cash and cash equivalents at beginning of period	123,794	187,675
Cash and cash equivalents at end of period	$ 116,616	$ 159,229

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

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

NOTE 1. BASIS OF PRESENTATION AND PRINCIPLES OF CONSOLIDATION

The accompanying unaudited condensed consolidated financial statements of IDEXX Laboratories, Inc. and its subsidiaries have been prepared in accordance with U.S. GAAP for interim financial information and with the requirements of Regulation S-X, Rule 10-01 for financial statements required to be filed as a part of this Quarterly Report on Form 10-Q. Unless the context requires otherwise, references in this Quarterly Report on Form 10-Q to “IDEXX,” the “Company,” “we,” “our,” or “us” refer to IDEXX Laboratories, Inc. and its subsidiaries.

The accompanying unaudited condensed consolidated financial statements include the accounts of IDEXX Laboratories, Inc. and our wholly-owned and majority-owned subsidiaries. We do not have any variable interest entities for which we are the primary beneficiary. All intercompany transactions and balances have been eliminated in consolidation.

The accompanying unaudited condensed consolidated financial statements reflect, in the opinion of our management, all adjustments necessary for a fair statement of our financial position and results of operations. All such adjustments are of a recurring nature. The consolidated balance sheet data at December 31, 2018, was derived from audited financial statements, but does not include all disclosures required by U.S. GAAP. The results of operations for the three months ended March 31, 2019, are not necessarily indicative of the results to be expected for the full year or any future period. These unaudited condensed consolidated financial statements should be read in conjunction with this Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, and our Annual Report on Form 10-K for the year ended December 31, 2018, (the “2018 Annual Report”) filed with the SEC.

We have included certain terms and abbreviations used throughout this Quarterly Report on Form 10-Q in the "Glossary of Terms and Selected Abbreviations."

NOTE 2. ACCOUNTING POLICIES

Significant Accounting Policies

The significant accounting policies used in preparation of these unaudited condensed consolidated financial statements for the three months ended March 31, 2019, are consistent with those discussed in Note 2 to the consolidated financial statements in our 2018 Annual Report, except as noted below.

New Accounting Pronouncements Adopted

We adopted ASU 2016-02, *Leases (Topic 842)* (the "New Leasing Standard"), as of January 1, 2019, using the optional transition method that allows for a cumulative-effect adjustment in the period of adoption and did not restate prior periods. In addition, we elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed us to carry forward the historical lease classification. The adoption of the New Leasing Standard resulted in the recording of operating lease liabilities of $86.7 million and right-of-use assets of $83.7 million. Prior to our adoption of the New Leasing Standard, rent prepayments of approximately $1.0 million were recorded within other current assets and the impact of recognizing rent expense on a straight-line basis of approximately $4.0 million was recorded within other current and long-term liabilities. Upon adoption of the New Leasing Standard, these rent prepayments and straight-line rent impacts are now recorded within operating lease right-of-use assets and represent the net difference between operating lease liabilities and right-of-use assets.

The New Leasing Standard requires us to classify certain reagent rental programs as sales-type leases and thus accelerate instrument revenue and cost recognition at the time of instrument placement. We did not change the historical lease classification for placements prior to January 1, 2019, therefore this change will apply to certain new placements beginning on January 1, 2019. Under prior U.S. GAAP, instruments placed under our reagent rental programs were classified as operating leases and instrument revenue and cost was recognized over the term of the program. The New Leasing Standard did not have a material impact on our consolidated earnings and had no impact on cash flows for the three months ended March 31, 2019.

Adoption of the New Leasing Standard impacted our condensed consolidated balance sheet as follows:

	Consolidated Balance Sheet		
	Previous U.S. GAAP December 31, 2018 (Reported)	New U.S. GAAP January 1, 2019	Impact of the New Leasing Standard
ASSETS			
Other current assets	$ 108,220	$ 107,228	$ (992)
Total current assets	$ 654,172	$ 653,180	$ (992)
Operating lease right-of-use asset	$ —	$ 83,707	$ 83,707
Total long-term assets	$ 883,177	$ 966,884	$ 83,707
TOTAL ASSETS	$ 1,537,349	$ 1,620,064	$ 82,715
LIABILITIES			
Accrued liabilities	$ 260,683	$ 274,459	$ 13,776
Total current liabilities	$ 770,444	$ 784,220	$ 13,776
Long-term operating lease liability	$ —	$ 68,939	$ 68,939
Total long-term liabilities	$ 776,138	$ 845,077	$ 68,939
TOTAL LIABILITIES	$ 1,546,582	$ 1,629,297	$ 82,715

We adopted ASU 2018-02, *Income Statement – Reporting Comprehensive Income (Topic 220) Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, on January 1, 2019. We elected not to reclassify the $1.7 million of stranded tax effects from the Tax Cuts and Jobs Act enacted on December 22, 2017, from accumulated other comprehensive income to retained earnings in the period of adoption.

In August 2018, the SEC issued Final Rule Release No. 33-10532, “Disclosure Update and Simplification,” which makes a number of changes meant to simplify interim disclosures. The new rule requires a presentation of changes in stockholders’ equity and noncontrolling interest in the form of a reconciliation, either as a separate financial statement or in the notes to the financial statements, for the current and comparative year-to-date interim periods. The additional elements of this release did not have a material impact on our overall condensed consolidated financial statements. We adopted the new disclosure requirements in our Form 10-Q for the period ended March 31, 2019.

New Accounting Pronouncements Not Yet Adopted

For a discussion of other accounting standards that have been issued by the FASB prior to January 1, 2019, but are not yet effective, refer to Note 2. Summary of Significant Accounting Policies - New Accounting Pronouncements Not Yet Adopted in our 2018 Annual Report.

NOTE 3. REVENUE RECOGNITION

Our revenue is recognized when, or as, performance obligations under the terms of a contract are satisfied, which occurs when control of the promised products or services is transferred to a customer. We exclude sales, use, value-added, and other taxes we collect on behalf of third parties from revenue. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring products or services to a customer. To accurately present the consideration received in exchange for promised products or services, we applied the five-step model outlined below:

1. Identification of a contract or agreement with a customer
2. Identification of our performance obligations in the contract or agreement
3. Determination of the transaction price
4. Allocation of the transaction price to the performance obligations
5. Recognition of revenue when, or as, we satisfy a performance obligation

We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. The timing of revenue recognition, billings, and cash collections results in accounts receivable, contract assets and lease receivables as a result of revenue recognized in advance of billings (included within other assets), and contract liabilities or deferred revenue as a result of receiving consideration in advance of revenue recognition within our unaudited condensed consolidated balance sheet. Our general payment terms range from 30 to 60 days, with exceptions in certain geographies. Below is a listing of our major categories of revenue for our products and services:

Diagnostic Products and Accessories. Diagnostic products and accessories revenues, including IDEXX VetLab consumables and accessories, rapid assay, LPD, Water, and OPTI testing products, are recognized and invoiced at the time of shipment, which is when the customer obtains control of the product based on legal title transfer and we have the right to payment. Shipping costs reimbursed by the customer are included in revenue and cost of sales. As a practical expedient, we do not account for shipping activities as a separate performance obligation.

Reference Laboratory Diagnostic and Consulting Services. Reference laboratory revenues are recognized and invoiced when the laboratory diagnostic service is performed.

Instruments, Software and Systems. CAG Diagnostics capital instruments, veterinary software and diagnostic imaging systems revenues are recognized and invoiced when the customer obtains control of the products based on legal title transfer and we have the right to payment, which generally occurs at the time of installation and customer acceptance. Our instruments, software, and systems are often included in one of our significant customer programs, as further described below. For veterinary software systems that include multiple performance obligations, such as perpetual software licenses and computer hardware, we allocate revenue to each performance obligation based on estimates of the price that we would charge the customer for each promised product or service if it were sold on a standalone basis.

Lease Revenue. Revenues from instrument rental agreements and reagent rental programs are recognized either as operating leases on a ratable basis over the term of the agreement or as sales-type leases at the time of installation and customer acceptance. Customers typically pay for the right to use instruments under rental agreements in equal monthly amounts over the term of the rental agreement. Our reagent rental programs provide our customers the right to use our instruments upon entering into agreements to purchase specified amounts of consumables, which are considered embedded leases. For some agreements, the customers are provided with the right to purchase the instrument at the end of the lease term. Lease revenues from these agreements are presented in product revenue on our unaudited condensed consolidated income statement. Lease revenue was approximately $4.6 million and $2.9 million for the three months ended March 31, 2019 and 2018, respectively, including both operating leases and sales-type leases under ASC 842, *Leases,* during 2019, and ASC 840, *Leases,* prior to 2019. See below for revenue recognition under our reagent rental programs.

Extended Warranties and Post-Contract Support. CAG Diagnostics capital instruments and diagnostic imaging systems extended warranties typically provide customers with continued coverage for a period of 1 to 5 years beyond the first-year standard warranty. Customers can either pay in full for the extended warranty at the time of instrument or system purchase or can be billed on a quarterly basis over the term of the contract. We recognize revenue associated with extended warranties over time on a ratable basis using a time elapsed measure of performance over the contract term, which approximates the expected timing in which applicable services are performed.

Veterinary software post-contract support provides customers with access to technical support when and as needed through access to call centers and online customer assistance. Post-contract support contracts typically have a term of 12 months and customers are billed for post-contract support in equal quarterly amounts over the term. We recognize revenue for post-contract support services over time on a ratable basis using a time-elapsed measure of performance over the contract term, which approximates the expected timing in which applicable services are performed.

On December 31, 2018, our deferred revenue related to extended warranties and post-contract support was $40.7 million, of which approximately $12.7 million was recognized during the three months ended March 31, 2019. Furthermore, as a result of new agreements, our deferred revenue related to extended warranties and post-contract support was $40.2 million at March 31, 2019. We do not disclose information about remaining performance obligations that are part of contracts with an original expected duration of one year or less and do not adjust for the effect of the financing components when the period between customer payment and revenue recognition is one year or less. Deferred revenue related to extended warranties and post-contract support with an original duration of more than one year was $26.7 million at March 31, 2019, of which approximately 24%, 31%, 23% and 22% are expected to be recognized during the remainder of 2019, the full year 2020, the full year 2021, and thereafter, respectively. Additionally, we have determined these agreements do not include a significant financing component.

SaaS Subscriptions. We offer a variety of veterinary software and diagnostic imaging SaaS subscriptions including Neo, Animana, Pet Health Network Pro, Petly Plans, Web PACS, rVetLink, and Smart Flow. We recognize revenue for our SaaS subscriptions over time on a ratable basis over the contract term, beginning on the date our service is made available to the customer. Our subscription contracts vary in term from monthly to 2 years. Customers typically pay for our subscription contracts in equal monthly amounts over the term of the agreement. Deferred revenue related to our SaaS subscriptions is not material.

Contracts with Multiple Performance Obligations. We enter into contracts where customers purchase a combination of IDEXX products and services. Determining whether products and services are considered distinct performance obligations that should be accounted for separately requires significant judgment. We determine the transaction price for a contract based on the consideration we expect to receive in exchange for the transferred goods or services. To the extent the transaction price includes variable consideration, such as volume rebates or expected price adjustments, we apply judgment in constraining the estimated variable consideration due to factors that may cause reversal of revenue recognized. We evaluate constraints based on our historical and projected experience with similar customer contracts.

We allocate revenue to each performance obligation in proportion to the relative standalone selling prices and recognize revenue when transfer of the related goods or services has occurred for each obligation. We utilize the observable standalone selling price when available, which represents the price charged for the performance obligation when sold separately. When standalone selling prices for our products or services are not directly observable we determine the standalone selling prices using relevant information available and apply suitable estimation methods including, but not limited to, the cost plus a margin approach. We recognize revenue as each performance obligation is satisfied, either at a point in time or over time, as described in the revenue categories above. We do not disclose information about remaining performance obligations that are part of contracts with an original expected duration of one year or less.

The following customer programs represent our most significant customer contracts which contain multiple performance obligations:

Customer Commitment Programs. We offer customer incentives upon entering into multi-year agreements to purchase annual minimum amounts of products and services.

Up-Front Customer Loyalty Programs. Our up-front loyalty programs provide customers with incentives in the form of cash payments or IDEXX Points upon entering into multi-year agreements to purchase annual minimum amounts of future products or services. If a customer breaches its agreement, they are required to refund all or a portion of the up-front cash or IDEXX Points, or make other repayments, remedial actions, or both. Up-front incentives to customers in the form of cash or IDEXX Points are not made in exchange for distinct goods or services and are capitalized as customer acquisition costs within other assets, which are subsequently recognized as a reduction to revenue over the term of the customer agreement. If these up-front incentives are subsequently utilized to purchase instruments, we allocate total consideration, including future committed purchases less up-front incentives and estimates of expected price adjustments, based on relative standalone selling prices to identified performance obligations and recognize instrument revenue and cost at the time of installation and customer acceptance. We have determined these agreements do not include a significant financing component. Differences between estimated and actual customer purchases may impact the amount and timing of revenue recognition.

On December 31, 2018, our capitalized customer acquisition costs were $124.4 million, of which approximately $8.9 million was recognized as a reduction of revenue during the three months ended March 31, 2019. Furthermore, as a result of new up-front customer loyalty payments, our capitalized customer acquisition costs were $125.2 million at March 31, 2019. We monitor customer purchases over the term of their agreement to assess the realizability of our capitalized customer acquisition costs and review estimates of variable consideration. Impairments, revenue adjustments that relate to performance obligations satisfied in prior periods, and contract modifications during the three months ended March 31, 2019, were not material.

Volume Commitment Programs. Our volume commitment programs, such as our IDEXX 360 program, provide customers with a free or discounted instrument or system upon entering into multi-year agreements to purchase annual minimum amounts of products and services. We allocate total consideration, including future committed purchases and expected price adjustments, based on relative standalone selling prices to identified performance obligations and recognize instrument revenue and cost in advance of billing the customer at the time of installation and customer acceptance, which is also when the customer obtains control of the instrument based on legal title transfer. Our right to future consideration related to instrument revenue is recorded as a contract asset within other current and long-term assets. The contract asset is transferred to accounts receivable when customers are billed for future products and services over the term of the contract. We have determined these agreements do not include a significant financing component. Differences between estimated and actual customer purchases may impact the amount and timing of revenue recognition.

On December 31, 2018, our volume commitment contract assets were $40.9 million, of which approximately $2.7 million was reclassified to accounts receivable when customers were billed for related products and services during the three months ended March 31, 2019. Furthermore, as a result of new placements under volume commitment programs, our contract assets were $49.5 million at March 31, 2019. We monitor customer purchases over the term of their agreement to assess the realizability of our contract assets and review estimates of variable consideration. Impairments, revenue adjustments that relate to performance obligations satisfied in prior periods, and contract modifications during the three months ended March 31, 2019, were not material.

For our up-front customer loyalty and volume commitment programs, we estimate future revenues related to multi-year agreements to be approximately $1.4 billion, of which approximately 20%, 23%, 19%, and 38% are expected to be recognized during the remainder of 2019, the full year 2020, the full year 2021, and thereafter, respectively. These future revenues relate to performance obligations not yet satisfied, for which customers have committed to purchase goods and services, net of the expected revenue reductions from customer acquisition costs and expected price adjustments, and as a result, are lower than stated contractual commitments by our customers.

Instrument Rebate Programs. Our instrument rebate programs, previously referred to as IDEXX Instrument Marketing Programs, require an instrument purchase and provide customers the opportunity to earn future rebates based on the volume of products and services they purchase over the term of the program. We account for the customer’s right to earn rebates on future purchases as a separate performance obligation and determine the standalone selling price based on an estimate of rebates the customer will earn over the term of the program. Total consideration allocated to identified performance obligations is limited to goods and services that the customer is presently obligated to purchase and does not include estimates of future purchases that are optional. We allocate total consideration to identified performance obligations, including customer’s right to earn rebates on future purchases, which is deferred and recognized upon the purchase of future products and services, offsetting future rebates as they are earned.

On December 31, 2018, our deferred revenue related to instrument rebate programs was $57.4 million, of which approximately $4.9 million was recognized when customers purchased eligible products and services and earned rebates during the three months ended March 31, 2019. Furthermore, as a result of new instrument purchases under rebate programs, our deferred revenue was $55.0 million at March 31, 2019, of which approximately 24%, 28%, 22%, and 26% are expected to be recognized during the remainder of 2019, the full year 2020, the full year 2021, and thereafter, respectively.

Reagent Rental Programs. Our reagent rental programs provide our customers the right to use our instruments upon entering into multi-year agreements to purchase annual minimum amounts of consumables. These types of agreements include an embedded lease for the right to use our instrument and we determine the amount of lease revenue allocated to the instrument based on relative standalone selling prices. We evaluate the terms of these embedded leases to determine classification as either a sales-type lease or an operating lease, as defined within the New Leasing Standard. We elected the package of practical expedients permitted under the transition guidance within the New Leasing Standard, which among other things, allowed us to carryforward our historical lease classification and therefore all reagent rental program placements prior to January 1, 2019 will continue to be classified as operating leases. We have not elected the practical expedient within the New Leasing Standard to combine lease and non-lease components.

Sales-type Reagent Rental Programs. Our reagent rental programs that effectively transfer control of instruments to our customers are classified as sales-type leases and we recognize instrument revenue and cost in advance of billing the customer, at the time of installation and customer acceptance. Our right to future consideration related to instrument revenue is recorded as a lease receivable within other current and long-term assets, and is transferred to accounts receivable when customers are billed for future products and services over the term of the contract. As a result of new placements under reagent rental programs, our lease receivable assets were $1.3 million at March 31, 2019. The impact of discounting and unearned income at March 31, 2019 were not material. Profit and loss recognized at the commencement date and interest income during the three months ended March 31, 2019 were not material. We monitor customer purchases over the term of their agreement to assess the realizability of our lease receivable assets. Impairments during the three months ended March 31, 2019 were not material.

Operating-type Reagent Rental Programs. Our reagent rental programs that do not effectively transfer control of instruments to our customers are classified as operating leases and we recognize instrument revenue and costs ratably over the term of the agreement. The cost of the instrument is capitalized within property and equipment. During the three months ended March 31, 2019 and 2018, we transferred instruments of $2.0 million and $4.0 million, respectively from inventory to property and equipment.

We estimate future revenue to be recognized related to our reagent rental programs of approximately $38.1 million, of which approximately 30%, 32%, 23%, and 15% are expected to be recognized during the remainder of 2019, the full year 2020, the full year 2021, and thereafter, respectively. These future revenues relate to performance obligations not yet satisfied for which customers have committed to future purchases, net of any expected price adjustments, and as a result, may be lower than stated contractual commitments by our customers.

Other Customer Incentive Programs. Certain agreements with customers include discounts or rebates on the sale of products and services applied retrospectively, such as volume rebates achieved by purchasing a specified purchase threshold of goods and services. We account for these discounts as variable consideration and estimate the likelihood of a customer meeting the threshold in order to determine the transaction price using the most predictive approach. We typically use the most-likely-amount method, for incentives that are offered to individual customers, and the expected-value method, for programs that are offered to a broad group of customers. Revenue adjustments that relate to performance obligations satisfied in prior periods during the three months ended March 31, 2019, were not material. Refund obligations related to customer incentive programs are recorded in accrued liabilities for the actual issuance of incentives, incentives earned but not yet issued and estimates of incentives to be earned in the future.

Program Combinations. At times, we combine elements of our significant customer programs within a single customer contract. We separate each significant program element and include the contract assets, customer acquisition costs, deferred revenues and estimated future revenues within the most relevant program disclosures above. Each customer contract is presented as a net contract asset or net contract liability on our unaudited condensed consolidated balance sheet.

Future market conditions and changes in product offerings may cause us to change marketing strategies to increase or decrease customer incentive offerings, possibly resulting in incremental reductions of revenue in future periods as compared to reductions in the current or prior periods. Additionally, certain customer programs require us to estimate, based on historical experience, and apply judgment to predict the amounts of future customer purchases, customer rebates and other incentive payments, and price adjustments related to multi-year agreements. Differences between estimated and actual customer purchases may impact the amount and timing of revenue recognition.

IDEXX Points. IDEXX Points may be applied to trade receivables due to us, converted to cash, or applied against the purchase price of IDEXX products and services. We consider IDEXX Points equivalent to cash. IDEXX Points that have not yet been used by customers are included in accrued liabilities until utilized or expired. Breakage is not material because customers can apply IDEXX Points to trade receivables at any time.

Accounts Receivable. We recognize revenue when it is probable that we will collect substantially all of the consideration to which we will be entitled, based on the customer’s intent and ability to pay the promised consideration. We apply judgment in determining the customer’s ability and intention to pay, which is based on a variety of factors including the customer’s historical payment experience or, in the case of a new customer, published credit and financial information pertaining to the customer. We maintain allowances for doubtful accounts for potentially uncollectible receivables. We base our estimates on a detailed analysis of specific customer situations and a percentage of our accounts receivable by aging category. Additional allowances may be required if either the financial condition of our customers were to deteriorate, or a strengthening U.S. dollar impacts the ability of foreign customers to make payments to us on their U.S. dollar-denominated purchases. Account balances are charged off against the allowance when we believe it is probable the receivable will not be recovered. We do not have any off-balance sheet credit exposure related to our customers. We have no significant customers that accounted for greater than 10% of our consolidated revenues and we have no concentration of credit risk as of March 31, 2019.

Disaggregated Revenues. We present disaggregated revenue for our CAG segment based on major product and service categories. Our Water segment is comprised of a single major product category. Although our LPD segment does not meet the quantitative thresholds to be reported as a separate segment, we believe it is important to disaggregate these revenues as a major product and service category within our Other reportable segment given its distinct markets, and therefore we have elected to report LPD as a reportable segment.

The following table presents disaggregated revenue by major product and service categories for the three months ended March 31, 2019 and 2018 (*in thousands*):

	For the Three Months Ended March 31,	
	2019	**2018**
CAG segment revenue:		
CAG Diagnostics recurring revenue:	$ 443,791	$ 406,048
IDEXX VetLab consumables	*167,211*	*149,513*
Rapid assay products	*54,431*	*52,017*
Reference laboratory diagnostic and consulting services	*202,658*	*186,937*
CAG Diagnostics service and accessories	*19,491*	*17,581*
CAG Diagnostics capital - instruments	28,749	30,895
Veterinary software, services and diagnostic imaging systems	36,378	33,890
CAG segment revenue	508,918	470,833
Water segment revenue	30,310	29,143
LPD segment revenue	31,506	32,240
Other segment revenue	5,322	5,440
Total revenue	$ 576,056	$ 537,656

Revenue by principal geographic area, based on customers' domiciles, was as follows (*in thousands*):

	For the Three Months Ended March 31,	
	2019	**2018**
United States	$ 358,288	$ 327,461
Europe, the Middle East and Africa	121,746	120,574
Asia Pacific Region	60,075	56,039
Canada	23,224	22,544
Latin America	12,723	11,038
Total	$ 576,056	$ 537,656

Costs to Obtain a Contract. We capitalize sales commissions and the related fringe benefits earned by our sales force when considered incremental and recoverable costs of obtaining a contract. Our contracts include performance obligations related to various goods and services, some of which are satisfied at a point in time and others over time. Commission costs related to performance obligations satisfied at a point in time are expensed at the time of sale, which is when revenue is recognized. Commission costs related to long-term service contracts and performance obligations satisfied over time, including extended warranties and SaaS subscriptions, are deferred and recognized on a systematic basis that is consistent with the transfer of the goods or services to which the asset relates. We apply judgment in estimating the amortization period, which ranges from 3 to 7 years, by taking into consideration our customer contract terms, history of renewals, expected length of customer relationship, as well as the useful life of the underlying technology and products. Amortization expense is included in sales and marketing expenses in the accompanying unaudited condensed consolidated statements of income. Deferred commission costs are periodically reviewed for impairment.

On December 31, 2018, our deferred commission costs, included within other assets, were $13.9 million, of which approximately $1.2 million of commission expense was recognized during the three months ended March 31, 2019. Furthermore, as a result of commissions related to new extended warranties and SaaS subscriptions, our deferred commission costs were $14.4 million at March 31, 2019. Impairments of deferred commission costs during the three months ended March 31, 2019, were not material.

NOTE 4. SHARE-BASED COMPENSATION

The fair value of options, restricted stock units, deferred stock units, and employee stock purchase rights awarded during the three months ended March 31, 2019, totaled $34.4 million as compared to $31.1 million for the three months ended March 31, 2018. The total unrecognized compensation expense, net of estimated forfeitures, for unvested share-based compensation awards outstanding at March 31, 2019, was $73.4 million, which will be recognized over a weighted average period of approximately 2.3 years. During the three months ended March 31, 2019, we recognized expenses of $6.3 million as compared to $6.0 million for the three months ended March 31, 2018, related to share-based compensation.

We determine the assumptions used in the valuation of option awards as of the date of grant. Differences in the expected stock price volatility, expected term or risk-free interest rate may necessitate distinct valuation assumptions at each grant date. As such, we may use different assumptions for options granted throughout the year. Option awards are granted with an exercise price equal to the closing market price of our common stock at the date of grant. We have never paid any cash dividends on our common stock, and we have no intention to pay such a dividend at this time; therefore, we assume that no dividends will be paid over the expected terms of option awards.

The weighted averages of the valuation assumptions used to determine the fair value of each option award on the date of grant and the weighted average estimated fair values were as follows:

	For the Three Months Ended March 31,	
	2019	2018
Share price at grant	$ 206.94	$ 178.26
Expected stock price volatility	26%	24%
Expected term, in years	6.0	5.8
Risk-free interest rate	2.5%	2.7%
Weighted average fair value of options granted	$ 63.55	$ 52.49

NOTE 5. INVENTORIES

Inventories are stated at the lower of cost (first-in, first-out) or net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The components of inventories were as follows *(in thousands)*:

	March 31, 2019	December 31, 2018
Raw materials	$ 32,869	$ 31,973
Work-in-process	20,077	17,009
Finished goods	136,522	124,321
Inventories	$ 189,468	$ 173,303

NOTE 6. LEASES

The majority of our facilities are occupied under operating lease arrangements with various expiration dates through 2067, some of which include options to extend the life of the lease, and some of which include options to terminate the lease within 1 year. In certain instances, we are responsible for the real estate taxes and operating expenses related to these facilities. Additionally, we enter into operating leases for certain vehicles and office equipment in the normal course of business. We determine the expected term of any executed agreements using the non-cancelable lease term plus any renewal options by which the failure to renew imposes a penalty in such amount that renewal is reasonably assured. The derived expected term is then used in the determination of a financing or operating lease and in the calculation of straight-line rent expense. Rent escalations are considered in the calculation of minimum lease payments in our capital lease tests and in determining straight-line rent expense for operating leases. Minimum lease payments include the fixed lease component of the agreement, as well as fixed rate increases that are initially measured at the lease commencement date. Variable lease payments based on an index, payments associated with non-lease components and short-term rentals (leases with terms less than 12 months) are expensed as incurred. Consideration is allocated to the lease and non-lease components based on the estimated standalone prices.

We determine if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use assets, accrued liabilities, and long-term operating lease liabilities in our consolidated balance sheets. Our financing leases are not material to our financial statements.

Right-of-use assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease liabilities and right-of-use assets are recognized at commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an explicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Rent expense for lease payments is recognized on a straight-line basis over the lease term. The operating lease right-of-use assets also includes any rent prepayments, lease incentives upon receipt and straight-line rent expense impacts, which represent the difference between our operating lease liabilities and right-of-use assets.

Maturities of operating lease liabilities were as follows (*in thousands, except lease term and discount rate)*:

	March 31, 2019
2019 (remainder of year)	$ 12,308
2020	17,414
2021	14,821
2022	11,175
2023	7,705
Thereafter	37,722
Total lease payments	101,145
Less imputed interest	(18,258)
Total	$ 82,887
Current operating lease liabilities, included in accrued liabilities	$ 13,932
Long-term operating lease liabilities	$ 68,955
Weighted average remaining lease term - operating leases	10.9 years
Weighted average discount rate - operating leases	3.7%

Rent expense charged to operations under operating leases was approximately $5.2 million during the three months ended March 31, 2019. Variable rent and short term lease expenses were not material.

Supplemental cash flow information for leases was as follows *(in thousands)*:

	For the Three Months Ended March 31, 2019
Cash paid for amounts included in the measurement of operating leases liabilities	$ 5,728
Right-of-use assets obtained in exchange for operating lease obligations	$ 2,196

At December 31, 2018, under ASC 840 *Leases*, the minimum annual rental payments under our lease agreements were as follows: $19.4 million in 2019; $17.1 million in 2020; $14.5 million in 2021; $10.8 million in 2022; $8.5 million in 2023; and $36.5 million thereafter.

NOTE 7. OTHER CURRENT AND LONG-TERM ASSETS

Other current assets consisted of the following *(in thousands)*:

	March 31, 2019	December 31, 2018
Prepaid expenses (Note 2)	$ 31,593	$ 30,314
Taxes receivable	13,813	14,098
Customer acquisition costs	35,495	34,515
Contract assets	11,669	9,670
Deferred sales commissions	4,664	4,464
Other assets	13,169	15,159
Other current assets	$ 110,403	$ 108,220

Other long-term assets consisted of the following *(in thousands)*:

	March 31, 2019	December 31, 2018
Investment in long-term product supply arrangements	$ 11,621	$ 10,894
Customer acquisition costs	89,690	89,862
Contract assets	37,839	31,269
Deferred sales commissions	9,731	9,470
Deferred income taxes	8,368	8,481
Other assets	42,360	39,617
Other long-term assets	$ 199,609	$ 189,593

NOTE 8. ACCRUED LIABILITIES

Accrued liabilities consisted of the following *(in thousands)*:

	March 31, 2019	December 31, 2018
Accrued expenses (Note 2)	$ 58,589	$ 65,212
Accrued employee compensation and related expenses	60,351	109,488
Accrued taxes	36,326	26,609
Accrued customer incentives and refund obligations	59,929	59,374
Current lease liabilities (Notes 2 and 6)	13,932	—
Accrued liabilities	$ 229,127	$ 260,683

Other long-term liabilities consisted of the following (*in thousands*):

	March 31, 2019	December 31, 2018
Accrued taxes	$ 67,525	$ 66,767
Other accrued long-term expenses (Note 2)	15,039	18,059
Other long-term liabilities	$ 82,564	$ 84,826

NOTE 9. DEBT

On December 19, 2014, we entered into a Multicurrency Note Purchase and Private Shelf Agreement among ourselves, Metropolitan Life Insurance Company ("MetLife"), and each of the accredited institutional purchasers named therein (the "Existing Agreement"). Pursuant to the terms of the Existing Agreement, we may request that MetLife purchase, over the three-year period beginning on December 19, 2014, up to $50 million of additional senior promissory notes of ours at a fixed interest rate and with a maturity date not to exceed fifteen years (the "Shelf Notes").

On March 14, 2019, we amended the Existing Agreement to (i) increase the Shelf Notes facility size from $50 million to $150 million, (ii) extend the Shelf Notes facility issuance period from December 19, 2017 to December 20, 2021 and (iii) make various implementing and administrative changes in order to facilitate a $100 million Shelf Notes issuance on March 14, 2019. We also submitted to MetLife a request to purchase $100 million of our Shelf Notes at a 4.19% per annum rate, due March 14, 2029, (the "Series C Notes"). We used the proceeds received from the Series C Notes for general corporate purposes, including a partial repayment of borrowings under our Credit Facility.

NOTE 10. REPURCHASES OF COMMON STOCK

We primarily acquire shares by repurchases in the open market. However, we also acquire shares that are surrendered by employees in payment for the minimum required statutory withholding taxes due on the vesting of restricted stock units and the settlement of deferred stock units, otherwise referred to herein as employee surrenders. We issue shares of treasury stock upon the vesting of certain restricted stock units and upon the exercise of certain stock options. The number of shares of treasury stock issued during the three months ended March 31, 2019 and 2018, was not material.

The following is a summary of our open market common stock repurchases, reported on a trade date basis, and shares acquired through employee surrender for the three months ended March 31, 2019 and 2018 *(in thousands, except per share amounts)*:

	For the Three Months Ended March 31, 2019	2018
Shares repurchased in the open market	267	465
Shares acquired through employee surrender for statutory tax withholding	36	48
Total shares repurchased	303	513
Cost of shares repurchased in the open market	$ 53,862	$ 86,188
Cost of shares for employee surrenders	7,403	8,555
Total cost of shares	$ 61,265	$ 94,743
Average cost per share - open market repurchases	$ 201.41	$ 185.23
Average cost per share - employee surrenders	$ 206.35	$ 178.83
Average cost per share - total	$ 202.00	$ 184.63

NOTE 11. INCOME TAXES

Our effective income tax rate was 17.7% for the three months ended March 31, 2019, as compared to 14.3% for the three months ended March 31, 2018. The increase in our effective tax rate was primarily related to lower tax benefits from share-based compensation, partially offset by a nonrecurring item recorded in the three months ended March 31, 2018, that resulted from the 2017 Tax Cut and Jobs Act.

NOTE 12. ACCUMULATED OTHER COMPREHENSIVE INCOME

The changes in AOCI, net of tax, for the three months ended March 31, 2019, consisted of the following *(in thousands)*:

For the Three Months Ended March 31, 2019	Unrealized (Loss) Gain on Investments, Net of Tax	Unrealized Gain (Loss) on Derivative Instruments, Net of Tax	Unrealized (Loss) Gain on Net Investment Hedge, Net of Tax	Cumulative Translation Adjustment	Total
Balance as of December 31, 2018	$ (157)	$ 7,589	$ (394)	$ (48,829)	$ (41,791)
Other comprehensive income (loss) before reclassifications	407	2,474	1,480	(1,423)	2,938
Gains reclassified from accumulated other comprehensive income	—	(1,162)	—	—	(1,162)
Balance as of March 31, 2019	$ 250	$ 8,901	$ 1,086	$ (50,252)	$ (40,015)

The changes in AOCI, net of tax, for the three months ended March 31, 2018, consisted of the following *(in thousands)*:

For the Three Months Ended March 31, 2018	Unrealized (Loss) Gain on Investments, Net of Tax	Unrealized (Loss) Gain on Derivative Instruments, Net of Tax	Unrealized Loss on Net Investment Hedge, Net of Tax	Cumulative Translation Adjustment	Total
Balance as of December 31, 2017	$ (22)	$ (5,219)	$ (4,311)	$ (26,918)	$ (36,470)
Other comprehensive income (loss) before reclassifications	118	(2,388)	(2,216)	5,165	679
Losses reclassified from accumulated other comprehensive income	—	1,585	—	—	1,585
Balance as of March 31, 2018	$ 96	$ (6,022)	$ (6,527)	$ (21,753)	$ (34,206)

The following is a summary of reclassifications out of AOCI for the three months ended March 31, 2019 and 2018 *(in thousands)*:

Details about AOCI Components	Affected Line Item in the Statements of Income	Amounts Reclassified from AOCI For the Three Months Ended March 31,	
		2019	2018
Gain (loss) on derivative instruments classified as cash flow hedges included in net income:			
Foreign currency exchange contracts	Cost of revenue	$ 1,411	$ (1,835)
	Tax expense (benefit)	249	(250)
	Gain (loss), net of tax	$ 1,162	$ (1,585)

NOTE 13. EARNINGS PER SHARE

Basic earnings per share is computed by dividing net income attributable to our stockholders by the weighted average number of shares of common stock and vested deferred stock units outstanding during the year. The computation of diluted earnings per share is similar to the computation of basic earnings per share, except that the denominator is increased for the assumed exercise of dilutive options and assumed issuance of unvested restricted stock units and unvested deferred stock units using the treasury stock method unless the effect is anti-dilutive. The treasury stock method assumes that proceeds, including cash received from the exercise of employee stock options and the total unrecognized compensation expense for unvested share-based compensation awards would be used to purchase our common stock at the average market price during the period. Vested deferred stock units outstanding are included in shares outstanding for basic and diluted earnings per share because the associated shares of our common stock are issuable for no cash consideration, the number of shares of our common stock to be issued is fixed and issuance is not contingent. See Note 5 to the consolidated financial statements in our 2018 Annual Report for additional information regarding deferred stock units.

The following is a reconciliation of weighted average shares outstanding for basic and diluted earnings per share for the three months ended March 31, 2019 and 2018 *(in thousands)*:

	For the Three Months Ended March 31,	
	2019	**2018**
Shares outstanding for basic earnings per share	86,204	87,331
Shares outstanding for diluted earnings per share:		
Shares outstanding for basic earnings per share	86,204	87,331
Dilutive effect of share-based payment awards	1,345	1,613
	87,549	88,944

Certain options to acquire shares have been excluded from the calculation of shares outstanding for diluted earnings per share because they were anti-dilutive. The following table presents information concerning those anti-dilutive options for the three months ended March 31, 2019 and 2018 *(in thousands*):

	For the Three Months Ended March 31,	
	2019	**2018**
Weighted average number of shares underlying anti-dilutive options	463	167

NOTE 14. COMMITMENTS, CONTINGENCIES AND GUARANTEES

Commitments

See "Note 6. Leases", for more information regarding our lease commitments.

Contingencies and Guarantees

We are subject to claims that may arise in the ordinary course of business, including with respect to actual and threatened litigation and other matters. We accrue for loss contingencies when it is probable that future expenditures will be made, and such expenditures can be reasonably estimated. However, the results of legal actions cannot be predicted with certainty, and therefore our actual losses with respect to these contingencies could exceed our accruals. At March 31, 2019, our accruals with respect to actual and threatened litigation were not material.

From time to time, we have received notices alleging that our products infringe third-party proprietary rights, although we are not aware of any pending litigation with respect to such claims. Patent litigation frequently is complex and expensive, and the outcome of patent litigation can be difficult to predict. There can be no assurance that we will prevail in any infringement proceedings that may be commenced against us. If we lose any such litigation, we may be stopped from selling certain products and/or we may be required to pay damages as a result of the litigation.

We have had no significant changes to our contingencies and guarantees discussed in Note 15 to the consolidated financial statements in our 2018 Annual Report.

NOTE 15. SEGMENT REPORTING

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision-maker ("CODM"), or decision-making group, in deciding how to allocate resources and in assessing performance. Our CODM is our Chief Executive Officer. Our reportable segments include diagnostic and information technology-based products and services for the veterinary market, which we refer to as the Companion Animal Group ("CAG"), water quality products ("Water") and diagnostic products and services for livestock and poultry health and to ensure the quality and safety of milk and improve dairy efficiency, which we refer to as Livestock, Poultry and Dairy ("LPD"). Our Other operating segment combines and presents products for the human point-of-care medical diagnostics market with our out-licensing arrangements. Assets are not allocated to segments for internal reporting purposes.

Certain costs are not allocated to our operating segments and are instead reported under the caption "Unallocated Amounts." These costs include costs that do not align with one of our existing operating segments or are cost prohibitive to allocate, which primarily consist of our R&D function, regional or country expenses, certain foreign currency revaluation and settlement gains and losses on monetary balances in currencies other than our subsidiaries' functional currency and unusual items. Corporate support function costs (such as information technology, facilities, human resources, finance and legal), health benefits and incentive compensation are charged to our business segments at pre-determined budgeted amounts or rates. Differences from these pre-determined budgeted amounts or rates are also captured within Unallocated Amounts.

The following is a summary of segment performance for the three months ended March 31, 2019 and 2018 *(in thousands)*:

	For the Three Months Ended March 31,					
	CAG	**Water**	**LPD**	**Other**	**Unallocated Amounts**	**Consolidated Total**
2019						
Revenue	$ 508,918	$ 30,310	$ 31,506	$ 5,322	$ —	$ 576,056
Income (loss) from operations	$ 115,022	$ 13,782	$ 6,250	$ 1,526	$ (3,442)	$ 133,138
Interest expense, net						(8,346)
Income before provision for income taxes						124,792
Provision for income taxes						22,083
Net income						102,709
Less: Net income attributable to noncontrolling interest						28
Net income attributable to IDEXX Laboratories, Inc. stockholders						$ 102,681
2018						
Revenue	$ 470,833	$ 29,143	$ 32,240	$ 5,440	$ —	$ 537,656
Income (loss) from operations	$ 100,398	$ 12,462	$ 2,961	$ 498	$ (3,275)	$ 113,044
Interest expense, net						(8,695)
Income before provision for income taxes						104,349
Provision for income taxes						14,873
Net income						89,476
Less: Net income attributable to noncontrolling interest						25
Net income attributable to IDEXX Laboratories, Inc. stockholders						$ 89,451

See “Note 3. Revenue Recognition” for a summary of disaggregated revenue by reportable segment and by major product and service category for the three months ended March 31, 2019 and 2018.

NOTE 16. FAIR VALUE MEASUREMENTS

U.S. GAAP defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. U.S. GAAP requires an entity to maximize the use of observable inputs, where available, and minimize the use of unobservable inputs when measuring fair value.

We have certain financial assets and liabilities that are measured at fair value on a recurring basis, certain nonfinancial assets and liabilities that may be measured at fair value on a non-recurring basis and certain financial assets and liabilities that are not measured at fair value in our unaudited condensed consolidated balance sheets but for which we disclose the fair value. The fair value disclosures of these assets and liabilities are based on a three-level hierarchy, which is defined as follows:

Level 1	Quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date.
Level 2	Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
Level 3	Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. Our assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability. We did not have any transfers between Level 1 and Level 2 or transfers in or out of Level 3 of the fair value hierarchy during the three months ended March 31, 2019.

Our cross currency swap contracts are measured at fair value on a recurring basis in our accompanying unaudited condensed consolidated balance sheets. We measure the fair value of our cross currency swap contracts classified as derivative instruments using prevailing market conditions as of the close of business on each balance sheet date. The product of this calculation is then adjusted for counterparty risk.

Our foreign currency exchange contracts are measured at fair value on a recurring basis in our accompanying unaudited condensed consolidated balance sheets. We measure the fair value of our foreign currency exchange contracts classified as derivative instruments using an income approach, based on prevailing market forward rates less the contract rate multiplied by the notional amount. The product of this calculation is then adjusted for counterparty risk.

The amounts outstanding under our unsecured revolving credit facility (“Credit Facility” or “line of credit”) and senior notes (“long-term debt”) are measured at carrying value in our unaudited condensed consolidated balance sheets though we disclose the fair value of these financial instruments. We determine the fair value of the amount outstanding under our Credit Facility and long-term debt using an income approach, utilizing a discounted cash flow analysis based on current market interest rates for debt issues with similar remaining years to maturity, adjusted for applicable credit risk. Our Credit Facility and long-term debt are valued using Level 2 inputs. The estimated fair value of our Credit Facility approximates its carrying value. The estimated fair value and carrying value of our long-term debt were $717.1 million and $699.8 million, respectively, as of March 31, 2019, and $607.3 million and $601.8 million, respectively, as of December 31, 2018.

The following tables set forth our assets and liabilities that were measured at fair value on a recurring basis at March 31, 2019, and at December 31, 2018, by level within the fair value hierarchy *(in thousands)*:

As of March 31, 2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Balance at March 31, 2019
Assets				
Money market funds(1)	$ 255	$ —	$ —	$ 255
Equity mutual funds(2)	$ 1,809	$ —	$ —	$ 1,809
Cross currency swaps(3)	$ —	$ 3,670	$ —	$ 3,670
Foreign currency exchange contracts(3)	$ —	$ 7,326	$ —	$ 7,326
Liabilities				
Foreign currency exchange contracts(3)	$ —	$ 74	$ —	$ 74
Deferred compensation(4)	$ 1,809	$ —	$ —	$ 1,809

As of December 31, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Balance at December 31, 2018
Assets				
Money market funds(1)	$ 250	$ —	$ —	$ 250
Equity mutual funds(2)	$ 1,673	$ —	$ —	$ 1,673
Cross currency swaps(3)	$ —	$ 1,789	$ —	$ 1,789
Foreign currency exchange contracts(3)	$ —	$ 8,163	$ —	$ 8,163
Liabilities				
Foreign currency exchange contracts(3)	$ —	$ 603	$ —	$ 603
Deferred compensation(4)	$ 1,673	$ —	$ —	$ 1,673

(1) Money market funds with an original maturity of less than ninety days are included within cash and cash equivalents. The remaining balance of cash and cash equivalents as of March 31, 2019 and December 31, 2018, consisted of demand deposits.
(2) Equity mutual funds relate to a deferred compensation plan that was assumed as part of a previous business combination. This amount is included within other long-term assets. See number (4) below for a discussion of the related deferred compensation liability.
(3) Cross currency swaps and foreign currency exchange contracts are included within other current assets; other long-term assets; accrued liabilities; or other long-term liabilities depending on the gain (loss) position and anticipated settlement date.
(4) A deferred compensation plan assumed as part of a previous business combination is included within accrued liabilities and other long-term liabilities. The fair value of our deferred compensation plan is indexed to the performance of the underlying equity mutual funds discussed in number (2) above.

The estimated fair value of certain financial instruments, including cash and cash equivalents, accounts receivable and accounts payable, approximate carrying value due to their short maturity.

NOTE 17. HEDGING INSTRUMENTS

Disclosure within this note is presented to provide transparency about how and why we use derivative and non-derivative instruments (collectively "hedging instruments"), how the instruments and related hedged items are accounted for, and how the instruments and related hedged items affect our financial position, results of operations and cash flows.

We are exposed to certain risks related to our ongoing business operations. The primary risk that we currently manage by using hedging instruments is foreign currency exchange risk. We may also enter into interest rate swaps to minimize the impact of interest rate fluctuations associated with borrowings under our variable-rate Credit Facility.

Our subsidiaries enter into foreign currency exchange contracts to manage the exchange risk associated with their forecasted intercompany inventory purchases and sales for the next year. From time to time, we may also enter into other foreign currency exchange contracts, cross currency swaps or foreign-denominated debt issuances to minimize the impact of foreign currency fluctuations associated with specific balance sheet exposures, including net investments in certain foreign subsidiaries.

The primary purpose of our foreign currency hedging activities is to protect against the volatility associated with foreign currency transactions, including transactions denominated in the euro, British pound, Japanese yen, Canadian dollar, and Australian dollar. We also utilize natural hedges to mitigate our transaction and commitment exposures. Our corporate policy prescribes the range of allowable hedging activity. We enter into foreign currency exchange contracts with well-capitalized multinational financial institutions, and we do not hold or engage in transactions involving derivative instruments for purposes other than risk management. Our accounting policies for these contracts are based on the designation of such instruments as hedging transactions.

We recognize all hedging instruments on the balance sheet at fair value at the balance sheet date. Instruments that do not qualify for hedge accounting treatment must be recorded at fair value through earnings. To qualify for hedge accounting treatment, cash flow and net investment hedges must be highly effective in offsetting changes to expected future cash flows or fair value on hedged transactions. If the instrument qualifies for hedge accounting, changes in the fair value of the hedging instrument from the effective portion of the hedge are deferred in AOCI, net of tax, and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. We immediately record in earnings the extent to which a hedging instrument is not effective in achieving offsetting changes in fair value. We de-designate hedging instruments from hedge accounting when the likelihood of the hedged transaction occurring becomes less than probable. For de-designated instruments, the gain or loss from the time of de-designation through maturity of the instrument is recognized in earnings. Any gain or loss in AOCI at the time of de-designation is reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. See “Note 12. Accumulated Other Comprehensive Income” for further information regarding the effect of hedging instruments on our unaudited condensed consolidated statements of income for the three months ended March 31, 2019 and 2018.

We enter into master netting arrangements with the counterparties to our derivative transactions which permit certain outstanding receivables and payables to be offset in the event of default. Our derivative contracts do not require either party to post cash collateral. We elect to present our derivative assets and liabilities in the unaudited condensed consolidated balance sheets on a gross basis. All cash flows related to our foreign currency exchange contracts are classified as operating cash flows, which is consistent with the cash flow treatment of the underlying items being hedged.

Cash Flow Hedges

We have designated our foreign currency exchange contracts as cash flow hedges as these derivative instruments mitigate the exposure to variability in the cash flows of forecasted transactions attributable to foreign currency exchange. Unless noted otherwise, we have also designated our derivative instruments as qualifying for hedge accounting treatment.

We did not de-designate any instruments from hedge accounting treatment during either the three months ended March 31, 2019 or 2018. At March 31, 2019, the estimated amount of net gains, net of income tax benefit, which are expected to be reclassified out of AOCI and into earnings within the next 12 months, is $5.9 million if exchange rates do not fluctuate from the levels at March 31, 2019.

We hedge approximately 85% of the estimated exposure from intercompany product purchases and sales denominated in the euro, British pound, Canadian dollar, Japanese yen, Australian dollar, and Swiss franc. We have additional unhedged foreign currency exposures related to foreign services and emerging markets where it is not practical to hedge. We primarily utilize foreign currency exchange contracts with durations of less than 24 months. Quarterly, we enter into contracts to hedge incremental portions of anticipated foreign currency transactions for the current and following year. As a result, our risk with respect to foreign currency exchange rate fluctuations and the notional value of foreign currency exchange contracts may vary throughout the year. The U.S. dollar is the currency purchased or sold in all of our foreign currency exchange contracts. The notional amount of foreign currency exchange contracts to hedge forecasted intercompany inventory purchases and sales totaled $184.6 million and $190.9 million at March 31, 2019 and December 31, 2018, respectively.

The following tables present the effect of cash flow hedge accounting on our unaudited condensed consolidated statements of income and comprehensive income, and provide information regarding the location and amounts of pretax gains or losses of derivatives *(in thousands)*:

		Three Months Ended March 31,	
		2019	2018
Financial statement line items in which effects of cash flow hedges are recorded	Cost of revenue	$ 244,459	$ 234,557
Foreign exchange contracts			
Amount of gain (loss) reclassified from accumulated other comprehensive income into income		$ 1,411	$ (1,835)

Net Investment Hedges

In June 2015, we issued and sold through a private placement an aggregate principal amount of €88.9 million in euro-denominated 1.785% Series C Senior Notes due June 18, 2025. We have designated these euro-denominated notes as a hedge of our euro net investment in certain foreign subsidiaries to reduce the volatility in stockholders' equity caused by changes in foreign currency exchange rates in the euro relative to the U.S. dollar. As a result of this designation, gains and losses from the change in translated U.S. dollar value of these euro-denominated notes are recorded in AOCI rather than to earnings. We recorded a $1.5 million gain, net of income tax, within AOCI as a result of this net investment hedge for the three months ended March 31, 2019. The related cumulative unrealized gain recorded at March 31, 2019, will not be reclassified in earnings until the complete or substantially complete liquidation of the net investment in the hedged foreign operations or a portion of the hedge no longer qualifies for hedge accounting treatment. See Note 12 to the consolidated financial statements included in our 2018 Annual Report for further information regarding the issuance of these euro-denominated notes.

During May 2018, January 2019, and March 2019, we entered into cross currency swap contracts as a hedge of our net investment in foreign operations to offset foreign currency translation gains and losses on the net investment. The cross currency swaps have a maturity date of June 30, 2023. At maturity of the cross currency swap contract, we will deliver the notional amount of €80.0 million and will receive approximately $93.5 million from the counterparties. The change in fair value of the cross currency swap contracts are recorded in AOCI and will be reclassified to earnings when the foreign subsidiaries are sold or substantially liquidated. During the three months ended March 31, 2019, we recorded a gain of $1.4 million, net of income tax, within AOCI as a result of these net investment hedges. We will receive quarterly interest payments from the counterparties based on a fixed interest rate until maturity of the cross currency swap. This interest rate component is excluded from the assessment of hedge effectiveness, thus is recognized as a reduction to interest expense over the life of the hedge instrument. We recognized approximately $0.5 million related to the excluded component as a reduction of interest expense for the three months ended March 31, 2019.

Fair Values of Hedging Instruments Designated as Hedges in Consolidated Balance Sheets

The fair values of hedging instruments and their respective classification on our unaudited condensed consolidated balance sheets and amounts subject to offset under master netting arrangements consisted of the following derivative instruments, unless otherwise noted *(in thousands)*:

		Hedging Assets	
		March 31, 2019	December 31, 2018
Derivatives and non-derivatives designated as hedging instruments	**Balance Sheet Classification**		
Foreign currency exchange contracts	Other current assets	$ 7,127	$ 8,163
Cross currency swaps	Other long-term assets	3,670	1,789
Foreign currency exchange contracts	Other long-term assets	199	—
Total derivative instruments presented as hedge instruments on the balance sheet		10,996	9,952
Gross amounts subject to master netting arrangements not offset on the balance sheet		74	603
Net amount		$ 10,922	$ 9,349

		Hedging Liabilities	
		March 31, 2019	December 31, 2018
Derivatives and non-derivatives designated as hedging instruments	**Balance Sheet Classification**		
Foreign currency exchange contracts	Accrued liabilities	$ 59	$ 603
Foreign currency exchange contracts	Other long-term liabilities	15	—
Total derivative instruments presented as cash flow hedges on the balance sheet		74	603
Non-derivative foreign currency denominated debt designated as net investment hedge on the balance sheet(1)	Long-term debt	99,831	101,777
Total hedging instruments presented on the balance sheet		99,905	102,380
Gross amounts subject to master netting arrangements not offset on the balance sheet		74	603
Net amount		$ 99,831	$ 101,777

(1) Amounts represent reported carrying amounts of our foreign currency denominated debt. See "Note 16. Fair Value Measurements" for information regarding the fair value of our long-term debt.

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

This Quarterly Report on Form 10-Q contains statements which, to the extent they are not statements of historical fact, constitute "forward-looking statements." Such forward-looking statements about our business and expectations within the meaning of the Private Securities Litigation Reform Act of 1995, 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"), include statements relating to future revenue growth rates, future tax benefits; business trends, earnings and other measures of financial performance; the effect of economic downturns on our business performance; projected impact of foreign currency exchange rates; demand for our products; realizability of assets; future cash flow and uses of cash; future repurchases of common stock; future levels of indebtedness and capital spending; interest expense; warranty expense; share-based compensation expense; the adoption and projected impact of new accounting standards; future commercial efforts; and competition. Forward-looking statements can be identified by the use of words such as "expects," "may," "anticipates," "intends," "would," "will," "plans," "believes," "estimates," "should," "project," and similar words and expressions. These forward-looking statements are intended to provide our current expectations or forecasts of future events; are based on current estimates, projections, beliefs, and assumptions; and are not guarantees of future performance. Actual events or results may differ materially from those described in the forward-looking statements. These forward-looking statements involve a number of risks and uncertainties, including the matters discussed in "Part I. Item 1A. Risk Factors" described in our 2018 Annual Report and this Quarterly Report on Form 10-Q, as well as those described from time to time in our other periodic reports filed with the SEC.

Any forward-looking statements represent our estimates only as of the day this Quarterly Report on Form 10-Q was filed with the SEC and should not be relied upon as representing our estimates as of any subsequent date. From time to time, oral or written forward-looking statements may also be included in other materials released to the public. While we may elect to update forward-looking statements at some point in the future, we specifically disclaim any obligation to do so, even if our estimates or expectations change.

You should read the following discussion and analysis in conjunction with our 2018 Annual Report that includes additional information about us, our results of operations, our financial position, and our cash flows, and with our unaudited condensed consolidated financial statements and related notes included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Business Overview

We develop, manufacture, and distribute products and provide services primarily for the companion animal veterinary, livestock, poultry and dairy, and water testing markets. We also sell a line of portable electrolytes and blood gas analyzers for the human point-of-care medical diagnostics market. Our primary products and services are:

- Point-of-care veterinary diagnostic products, comprising instruments, consumables, and rapid assay test kits;
- Veterinary reference laboratory diagnostic and consulting services;
- Practice management and diagnostic imaging systems and services used by veterinaries;
- Health monitoring, biological materials testing, laboratory diagnostic instruments and services used by the biomedical research community;
- Diagnostic, health-monitoring products for livestock, poultry, and dairy;
- Products that test water for certain microbiological contaminants;
- Point-of-care electrolytes and blood gas analyzers used in the human point-of-care medical diagnostics market.

Operating Segments. We operate primarily through three business segments: diagnostic and information technology-based products and services for the veterinary market, which we refer to as the Companion Animal Group ("CAG"), water quality products ("Water") and diagnostic products and services for livestock and poultry health and to ensure the quality and safety of milk and improve dairy reproductive efficiency, which we refer to as Livestock, Poultry and Dairy ("LPD"). Our Other operating segment combines and presents products for the human point-of-care medical diagnostics market ("OPTI Medical") with our out-licensing arrangements because they do not meet the quantitative or qualitative thresholds for reportable segments.

CAG develops, designs, manufactures, and distributes products and performs services for veterinarians and the biomedical analytics market, primarily related to diagnostics and information management. Water develops, designs, manufactures, and distributes a range of products used in the detection of various microbiological parameters in water. LPD develops, designs, manufactures, and distributes diagnostic tests and related software and performs services that are used to manage the health status of livestock and poultry, to improve bovine reproductive efficiency, and to ensure the quality and safety of milk and food. OPTI Medical manufactures and distributes point-of-care electrolyte and blood gas analyzers and related consumable products for the human medical diagnostics market.

Certain costs are not allocated to our operating segments and are instead reported under the caption "Unallocated Amounts." These costs include costs that do not align with one of our existing operating segments or are cost prohibitive to allocate, which primarily consist of our R&D function, regional or country expenses, certain foreign currency revaluation and settlement gains and losses on monetary balances in currencies other than our subsidiaries' functional currency and unusual items. Corporate support function costs (such as information technology, facilities, human resources, finance and legal), health benefits and incentive compensation are charged to our business segments at pre-determined budgeted amounts or rates. Differences from these pre-determined budgeted amounts or rates are also captured within Unallocated Amounts.

Effects of Certain Factors and Trends on Results of Operations

Currency Impact. See "Part I. Item 3. Quantitative and Qualitative Disclosures about Market Risk" included in this Quarterly Report on Form 10-Q for additional information regarding the impact of foreign currency exchange rates.

Other Items. See "Part I. Item 1. Business - Patents and Licenses" and "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our 2018 Annual Report for additional information regarding distributor purchasing and inventories, economic conditions, and patent expiration.

Critical Accounting Estimates and Assumptions

The discussion and analysis of our financial condition and results of operations is based upon our unaudited condensed consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We evaluate our estimates on an ongoing basis. We base our estimates on historical experience and on various assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. The critical accounting policies and the significant judgments and estimates used in the preparation of our unaudited condensed consolidated financial statements for the three months ended March 31, 2019, are consistent with those discussed in our 2018 Annual Report in the section under the heading "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Estimates and Assumptions."

Recent Accounting Pronouncements

For more information regarding the impact of recent accounting standards and amendments will have on our consolidated financial statements as described in Note 2 to the unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Non-GAAP Financial Measures

The following revenue analysis and discussion focuses on organic revenue growth, and references in this analysis and discussion to "revenue," "revenues" or "revenue growth" are references to "organic revenue growth." Organic revenue growth is a non-GAAP financial measure and represents the percentage change in revenue during the three months ended March 31, 2019, as compared to the same period for the prior year, net of the effect of changes in foreign currency exchange rates, certain business acquisitions, and divestitures. Organic revenue growth should be considered in addition to, and not as a replacement for, or as a superior measure to, revenues reported in accordance with U.S. GAAP, and may not be comparable to similarly titled measures reported by other companies. Management believes that reporting organic revenue growth provides useful information to investors by facilitating easier comparisons of our revenue performance with prior and future periods and to the performance of our peers.

We exclude from organic revenue growth the effect of changes in foreign currency exchange rates because changes in foreign currency exchange rates are not under management's control, are subject to volatility and can obscure underlying business trends. We calculate the impact on revenue resulting from changes in foreign currency exchange rates by applying the difference between the weighted average exchange rates during the current year period and the comparable prior year period to foreign currency denominated revenues for the prior year period.

We also exclude from organic revenue growth the effect of certain business acquisitions and divestitures because the nature, size and number of these transactions can vary dramatically from period to period, and because they either require or generate cash as an inherent consequence of the transaction, and therefore can also obscure underlying business and operating trends. We exclude only acquisitions that are considered to be a business from organic revenue growth. In a business combination, if substantially all the fair value of the assets acquired is concentrated in a single asset or group of similar assets, we do not consider these assets to be a business and include these acquisitions in organic revenue growth. A typical acquisition that we do not consider a business is a customer list asset acquisition, which does not have all elements necessary to operate a business, such as employees or infrastructure. We believe the efforts required to convert and retain these acquired customers are similar in nature to our existing customer base and therefore are included in organic revenue growth.

We also use Adjusted EBITDA, gross debt, net debt, gross debt to Adjusted EBITDA ratio and net debt to Adjusted EBITDA ratio, in this Quarterly Report on Form 10-Q, all of which are non-GAAP financial measures that should be considered in addition to, and not as a replacement for, financial measures presented according to U.S. GAAP. Management believes that reporting these non-GAAP financial measures provides supplemental analysis to help investors further evaluate our business performance and available borrowing capacity under our Credit Facility.

Comparison to Prior Periods

Our fiscal quarter ended on March 31. Unless otherwise stated, the analysis and discussion of our financial condition and results of operations below, including references to growth and organic growth and increases and decreases, are being compared to the equivalent prior year period.

Results of Operations

Three Months Ended March 31, 2019, Compared to Three Months Ended March 31, 2018

Total Company. The following table presents total Company revenue by operating segment:

Net Revenue *(dollars in thousands)*	For the Three Months Ended March 31, 2019	For the Three Months Ended March 31, 2018	Dollar Change	Reported Revenue Growth(1)	Percentage Change from Currency	Percentage Change from Acquisitions	Organic Revenue Growth(1)
CAG	**$ 508,918**	**$ 470,833**	**$ 38,085**	**8.1%**	**(2.5%)**	**0.2%**	**10.5%**
United States	*337,874*	*308,286*	*29,588*	*9.6%*	—	*0.2%*	*9.4%*
International	*171,044*	*162,547*	*8,497*	*5.2%*	*(7.5%)*	*0.1%*	*12.6%*
Water	**30,310**	**29,143**	**1,167**	**4.0%**	**(4.0%)**	—	**8.0%**
United States	*14,604*	*13,921*	*683*	*4.9%*	—	—	*4.9%*
International	*15,706*	*15,222*	*484*	*3.2%*	*(7.9%)*	—	*11.1%*
LPD	**31,506**	**32,240**	**(734)**	**(2.3%)**	**(6.3%)**	—	**4.0%**
United States	*3,263*	*3,313*	*(50)*	*(1.5%)*	—	—	*(1.5%)*
International	*28,243*	*28,927*	*(684)*	*(2.4%)*	*(7.0%)*	—	*4.6%*
Other	**5,322**	**5,440**	**(118)**	**(2.2%)**	**—**	—	**(2.2%)**
Total Company	**$ 576,056**	**$ 537,656**	**$ 38,400**	**7.1%**	**(2.8%)**	**0.1%**	**9.8%**
United States	*358,288*	*327,461*	*30,827*	*9.4%*	—	*0.2%*	*9.2%*
International	*217,768*	*210,195*	*7,573*	*3.6%*	*(7.3%)*	*0.1%*	*10.8%*

(1) Reported revenue growth and organic revenue growth may not recalculate due to rounding.

Total Company Revenue. The increase in both U.S. and international organic revenues was driven by strong volume gains in CAG Diagnostics recurring revenue, supported by our differentiated diagnostic technologies and expanded commercial organization that are driving increased volumes from new and existing customers in our reference laboratory business and the impact of the continued expansion of our CAG Diagnostics instrument installed base. Our Water business also contributed to our international growth, primarily from higher sales volumes of our Colilert test products and related accessories. The impact of currency movements decreased revenue by 2.8%.

The following table presents total Company results of operations:

Total Company - Results of Operations *(dollars in thousands)*	**For the Three Months Ended March 31,** 2019	Percent of Revenue	2018	Percent of Revenue	**Change** Amount	Percentage
Revenues	$ 576,056		$ 537,656		$ 38,400	7.1%
Cost of revenue	244,459		234,557		9,902	4.2%
Gross profit	331,597	57.6%	303,099	56.4%	28,498	9.4%
Operating Expenses:						
Sales and marketing	106,584	18.5%	100,101	18.6%	6,483	6.5%
General and administrative	60,361	10.5%	60,931	11.3%	(570)	(0.9%)
Research and development	31,514	5.5%	29,023	5.4%	2,491	8.6%
Total operating expenses	198,459	34.5%	190,055	35.3%	8,404	4.4%
Income from operations	$ 133,138	23.1%	$ 113,044	21.0%	$ 20,094	17.8%

Gross Profit. Gross profit increased due to higher sales volumes and a 120 basis point increase in the gross profit percentage. The increase in the gross profit percentage was driven by several factors, including the net benefit of price increases in our CAG Diagnostics recurring revenue portfolio, mix benefits from high growth in VetLab consumable revenues, volume leverage and productivity benefits in our U.S. reference laboratory services, and the favorable impact of lower product costs in our CAG and LPD businesses. The impact from foreign currency movements increased gross profit margin by approximately 10 basis points, including the impact of hedge gains in the current year, as compared to hedge losses in the prior year.

Operating Expenses. The increase in sales and marketing expense was primarily due to increased personnel-related costs from our expanded global commercial infrastructure. The decrease in general and administrative expense was primarily due to lower corporate function costs, including certain information technology projects that will occur later in the year. Research and development expense increased primarily due to higher project and personnel-related costs. The changes in currency exchange rates decreased total operating expenses within our segments, which was offset by foreign exchange losses on settlements of foreign currency denominated transactions recorded within Unallocated Amounts, resulting in approximately a 2% decrease to our overall operating expenses.

Companion Animal Group

The following table presents revenue by product and service category for CAG:

Net Revenue (dollars in thousands)	For the Three Months Ended March 31, 2019	2018	Dollar Change	Reported Revenue Growth(1)	Percentage Change from Currency	Percentage Change from Acquisitions	Organic Revenue Growth(1)
CAG Diagnostics recurring revenue:	$ 443,791	$ 406,048	$ 37,743	9.3 %	(2.6%)	—	11.9 %
IDEXX VetLab consumables	*167,211*	*149,513*	*17,698*	*11.8 %*	*(3.1%)*	—	*15.0 %*
Rapid assay products	*54,431*	*52,017*	*2,414*	*4.6 %*	*(1.4%)*	—	*6.1 %*
Reference laboratory diagnostic and consulting services	*202,658*	*186,937*	*15,721*	*8.4 %*	*(2.4%)*	—	*10.8 %*
CAG diagnostics services and accessories	*19,491*	*17,581*	*1,910*	*10.9 %*	*(3.7%)*	—	*14.6 %*
CAG Diagnostics capital - instruments	28,749	30,895	(2,146)	(6.9%)	(3.5%)	—	(3.4%)
Veterinary software, services and diagnostic imaging systems	36,378	33,890	2,488	7.3 %	(0.6%)	2.2%	5.8 %
Net CAG revenue	$ 508,918	$ 470,833	$ 38,085	8.1 %	(2.5%)	0.2%	10.5 %

(1) Reported revenue growth and organic revenue growth may not recalculate due to rounding

<u>CAG Diagnostics Recurring Revenue</u>. The increase in CAG Diagnostics recurring revenue was primarily due to increased volumes in IDEXX VetLab consumables and reference laboratory diagnostic services, and to a lesser extent, higher realized prices.

IDEXX VetLab consumables revenue growth was primarily due to higher sales volumes across all regions for our Catalyst consumables, including SDMA consumables, and to a lesser extent, Procyte Dx® consumables and Sedivue Dx® analyzer pay-per-run sales. These increases were supported by expansion of our instrument installed base, growth in testing by new and existing customers, our expanded menu of available tests, and to a lesser extent, benefits from higher average unit sales prices, and customer stocking in the U.K ahead of the planned exit from the European Union.

The increase in rapid assay revenue resulted primarily from higher sales volumes of canine SNAP® 4Dx Plus and to a lesser extent, higher realized prices.

The increase in reference laboratory diagnostic and consulting services revenue was primarily due to the impact of higher testing volumes throughout our worldwide network of laboratories, most prominently in the U.S., resulting from increased testing from new and existing customers, supported by our differentiated diagnostic technologies, such as IDEXX SDMA™ and fecal antigen testing. The increase was also the result of higher average unit sales prices.

CAG Diagnostics services and accessories revenue growth was primarily a result of the increase in our active installed base of instruments.

<u>CAG Diagnostics Capital – Instruments Revenue</u>. The decrease in instrument revenue reflects slightly lower overall instrument placements as well as the impact of product mix, including lower SediVue Dx analyzer placements compared to high prior year levels, partially offset by higher Procyte Dx analyzer placements, and higher Catalyst analyzer placements.

Veterinary Software, Services and Diagnostic Imaging Systems Revenue. The increase in revenue was primarily due to increased veterinary software, subscription, and services, as well as higher realized prices on these service offerings, and to a lesser extent, higher diagnostic imaging services as a result of the increase in our active installed base. These increases were partially offset by lower diagnostic imaging system placements compared to high prior year levels. Our acquisition of a software company in the second half of 2018 contributed 2.2% to reported revenue growth.

The following table presents the CAG segment results of operations:

	For the Three Months Ended March 31,				Change	
Results of Operations *(dollars in thousands)*	**2019**	**Percent of Revenue**	**2018**	**Percent of Revenue**	**Amount**	**Percentage**
Revenues	$ 508,918		$ 470,833		$ 38,085	8.1%
Cost of revenues	221,430		208,900		12,530	6.0%
Gross profit	287,488	56.5%	261,933	55.6%	25,555	9.8%
Operating Expenses:						
Sales and marketing	96,819	19.0%	89,106	18.9%	7,713	8.7%
General and administrative	52,311	10.3%	51,135	10.9%	1,176	2.3%
Research and development	23,336	4.6%	21,294	4.5%	2,042	9.6%
Total operating expenses	172,466	33.9%	161,535	34.3%	10,931	6.8%
Income from operations	$ 115,022	22.6%	$ 100,398	21.3%	$ 14,624	14.6%

Gross Profit. Gross profit increased primarily due to higher sales volume as well as a 90 basis point increase in the gross profit percentage. The increase in gross profit percentage was driven by the net benefit of price increases in our CAG Diagnostics recurring revenue portfolio, mix benefits from high growth in VetLab consumable revenues, scale and productivity gains in U.S. reference laboratory services, and the favorable impact of lower product costs. The impact from foreign currency movements had an immaterial impact on gross profit margin.

Operating Expenses. The increase in sales and marketing expense was primarily due to increased personnel-related costs related to our expanded global commercial infrastructure. The increase in general and administrative expense was the result of higher personnel-related costs. The increase in research and development expense was primarily due to higher project costs and increased personnel-related costs. The overall change in currency exchange rates decreased operating expenses by approximately 3%.

Water

The following table presents the Water segment results of operations:

Results of Operations *(dollars in thousands)*	For the Three Months Ended March 31, 2019	Percent of Revenue	2018	Percent of Revenue	Change Amount	Change Percentage
Revenues	$ 30,310		$ 29,143		$ 1,167	4.0 %
Cost of revenue	8,171		8,781		(610)	(6.9%)
Gross profit	22,139	73.0%	20,362	69.9%	1,777	8.7 %
Operating Expenses:						
Sales and marketing	3,995	13.2%	4,065	13.9%	(70)	(1.7%)
General and administrative	3,314	10.9%	3,188	10.9%	126	4.0 %
Research and development	1,048	3.5%	647	2.2%	401	62.0 %
Total operating expenses	8,357	27.6%	7,900	27.1%	457	5.8 %
Income from operations	$ 13,782	45.5%	$ 12,462	42.8%	$ 1,320	10.6 %

Revenue. The increase in revenue was primarily attributable to the benefit of price increases and higher sales volumes of our Colilert test products and related accessories used in coliform and E. coli testing, including strong volume growth rates in our Latin America and Asia Pacific regions, as well as customer stocking in the U.K ahead of the planned exit from the European Union. The impact of currency movements decreased revenue by approximately 4.0%.

Gross Profit. Gross profit increased due to higher sales volumes as well as a 310 basis point increase in the gross profit percentage. The increase in the gross profit percentage was primarily due to the decreases in manufacturing costs and net benefit of price increases, partially offset by higher distribution costs. The impact from foreign currency movements increased our gross profit percentage by approximately 90 basis points, including the impact of hedge gains in the current year, as compared to hedge losses in the prior year.

Operating Expenses. The decrease in sales and marketing expenses and increase in research and development expenses was primarily due to the realignment of certain personnel within operating expense categories. General and administrative expenses increased primarily due to personnel-related costs. The overall change in currency exchange rates resulted in a decrease in operating expenses of approximately 3%.

Livestock, Poultry and Dairy

The following table presents the LPD segment results of operations:

Results of Operations *(dollars in thousands)*	For the Three Months Ended March 31, 2019	Percent of Revenue	2018	Percent of Revenue	Change Amount	Percentage
Revenues	$ 31,506		$ 32,240		$ (734)	(2.3%)
Cost of revenue	12,467		14,593		(2,126)	(14.6%)
Gross profit	19,039	60.4%	17,647	54.7%	1,392	7.9%
Operating Expenses:						
Sales and marketing	5,281	16.8%	6,614	20.5%	(1,333)	(20.2%)
General and administrative	4,465	14.2%	4,910	15.2%	(445)	(9.1%)
Research and development	3,043	9.7%	3,162	9.8%	(119)	(3.8%)
Total operating expenses	12,789	40.6%	14,686	45.6%	(1,897)	(12.9%)
Income from operations	$ 6,250	19.8%	$ 2,961	9.2%	$ 3,289	111.1%

Revenue. The decrease in revenue was primarily due to the unfavorable impact of foreign currency movements that decreased revenue by approximately 6.3%, as well as a decline in European bovine testing programs, lower diagnostic testing related to African swine fever outbreaks in China, and lower dairy sales impacted by low milk prices. These decreases were partially offset by increased herd health screening, poultry testing volumes in our Asia Pacific region, and higher pregnancy testing in our European and Asia Pacific regions.

Gross Profit. The increase in gross profit was primarily due to higher herd health screening volumes and a 5.7% increase in the gross profit percentage. The gross profit percentage increase was primarily due to lower product manufacturing costs and favorable product mix. The impact from foreign currency movements increased gross profit margin by approximately 130 basis points, including the impact of hedge gains in the current year, as compared to hedge losses in the prior year.

Operating Expenses. The decreases in operating expenses were due to lower personnel-related costs, primarily due to open positions. The overall change in currency exchange rates resulted in a decrease in operating expenses of approximately 4%.

Other

The following table presents the Other results of operations:

Results of Operations *(dollars in thousands)*	**For the Three Months Ended March 31,** 2019	Percent of Revenue	2018	Percent of Revenue	**Change** Amount	Percentage
Revenues	$ 5,322		$ 5,440		$ (118)	(2.2%)
Cost of revenue	2,595		3,366		(771)	(22.9%)
Gross profit	2,727	51.2%	2,074	38.1%	653	31.5%
Operating Expenses:						
Sales and marketing	347	6.5%	520	9.6%	(173)	(33.3%)
General and administrative	345	6.5%	804	14.8%	(459)	(57.1%)
Research and development	509	9.6%	252	4.6%	257	102.0%
Total operating expenses	1,201	22.6%	1,576	29.0%	(375)	(23.8%)
Income from operations	$ 1,526	28.7%	$ 498	9.2%	$ 1,028	206.4%

Revenue. The decrease in revenue was due to lower volumes of our OPTI Medical analyzers and related consumables, mostly offset by higher royalties associated with intellectual property related to our former pharmaceutical product line, and to a lesser extent higher realized prices on our OPTI Medical products and services. The impact of currency movements on revenue was immaterial.

Gross Profit. The increase in gross profit was due to a 13.1% increase in the gross profit percentage primarily due to favorable product mix from higher royalties, as well as price increases on OPTI Medical products and services and lower manufacturing costs, partially offset by higher service and distribution expense. The overall change in currency exchange rates had an immaterial impact on the gross profit percentage.

Operating Expenses. The decrease in sales and marketing expense was primarily due to lower personnel-related costs. The decrease in general and administrative expenses was primarily due to the recovery of previously established bad debt reserves in Africa and the Middle East. The increase in research and development costs was primarily due to higher personnel-related and project costs.

Unallocated Amounts

The following table presents the Unallocated Amounts results of operations:

Results of Operations *(dollars in thousands)*	For the Three Months Ended March 31, 2019	2018	Change Amount	Percentage
Revenues	$ —	$ —	$ —	—
Cost of revenue	(204)	(1,083)	879	(81.2%)
Gross profit	204	1,083	(879)	(81.2%)
Operating Expenses:				
Sales and marketing	142	(204)	346	(169.6%)
General and administrative	(74)	894	(968)	(108.3%)
Research and development	3,578	3,668	(90)	(2.5%)
Total operating expenses	3,646	4,358	(712)	(16.3%)
Loss from operations	$ (3,442)	$ (3,275)	$ (167)	5.1%

Unallocated Amounts. The change in unallocated amounts was due to higher foreign exchange losses on settlements of foreign currency denominated transactions compared to gains in the prior period, as well as higher unallocated employee benefit and incentive costs. These impacts were offset by lower unallocated corporate function costs, including certain information technology projects that will occur later in the year.

Non-Operating Items

Interest Income. Interest income was $0.04 million for the three months ended March 31, 2019, as compared to $0.6 million for the three months ended March 31, 2018. The decrease in interest income was primarily due to the liquidation of our portfolio of marketable securities during the first quarter of 2018.

Interest Expense. Interest expense was $8.4 million for the three months ended March 31, 2019, as compared to $9.3 million for the same period in the prior year. The decrease in interest expense was the result of lower average debt levels, offset by higher interest rates. We also realized lower interest expense from the benefit of our cross currency swaps, as well as increased capitalized interest related to the expansion of our Westbrook, Maine headquarters and relocation of our core reference laboratory in Germany.

Provision for Income Taxes. Our effective income tax rate was 17.7% for the three months ended March 31, 2019, as compared to 14.3% for the three months ended March 31, 2018. The increase in our effective tax rate was primarily related to lower tax benefits from share-based compensation, partially offset by a nonrecurring item recorded in the three months ended March 31, 2018, that resulted from the 2017 Tax Cut and Jobs Act.

Liquidity and Capital Resources

Liquidity

We fund the capital needs of our business through cash on hand, funds generated from operations, proceeds from long-term senior note financings, and amounts available under our Credit Facility. At March 31, 2019, we had $116.6 million of cash and cash equivalents, as compared to $123.8 million on December 31, 2018. Working capital, including our Credit Facility, totaled $8.0 million at March 31, 2019, as compared to negative $116.3 million at December 31, 2018. Additionally, at March 31, 2019, we had remaining borrowing availability of $501.7 million under our $850 million Credit Facility. We believe that, if necessary, we could obtain additional borrowings at similar rates to our existing borrowings to fund our growth objectives. We further believe that current cash and cash equivalents, funds generated from operations, and committed borrowing availability will be sufficient to fund our operations, capital purchase requirements, and anticipated growth needs for the next twelve months. We believe that these resources, coupled with our ability, as needed, to obtain additional financing on favorable terms will also be sufficient to fund our business as currently conducted for the foreseeable future. We may enter into new financing arrangements or refinance or retire existing debt in the future depending on market conditions. Should we require more capital in the U.S. than is generated by our operations, for example to fund significant discretionary activities, we could elect to raise capital in the U.S. through debt or equity issuances. These alternatives could result in increased interest expense or other dilution of our earnings.

We manage our worldwide cash requirements considering available funds among all of our subsidiaries. Our foreign cash and marketable securities are generally available without restrictions to fund ordinary business operations outside the U.S.

The following table presents cash, cash equivalents and marketable securities held domestically and by our foreign subsidiaries at March 31, 2019, and December 31, 2018:

Cash, cash equivalents and marketable securities *(dollars in thousands)*	March 31, 2019	December 31, 2018
U.S.	$ 2,632	$ 2,044
Foreign	113,984	121,750
Total	$ 116,616	$ 123,794
Total cash, cash equivalents and marketable securities held in U.S. dollars by our foreign subsidiaries	$ 3,785	$ 11,119
Percentage of total cash, cash equivalents and marketable securities held in U.S. dollars by our foreign subsidiaries	3.2%	9.0%

Of the $116.6 million of cash and cash equivalents held as of March 31, 2019, greater than 99% was held as bank deposits.

The following table presents additional key information concerning working capital:

	For the Three Months Ended				
	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Days sales outstanding[(1)]	42.0	42.6	44.3	41.2	42.0
Inventory turns[(2)]	2.0	2.3	2.1	2.2	2.0

(1) Days sales outstanding represents the average of the accounts receivable balances at the beginning and end of each quarter divided by revenue for that quarter, the result of which is then multiplied by 91.25 days.

(2) Inventory turns represent inventory-related cost of product revenue for the 12 months preceding each quarter-end divided by the inventory balance at the end of the quarter.

Sources and Uses of Cash

The following table presents cash provided (used):

(dollars in thousands)	For the Three Months Ended March 31, 2019	2018	Dollar Change
Net cash provided by operating activities	$ 34,378	$ 34,898	$ (520)
Net cash (used) provided by investing activities	(38,206)	260,312	(298,518)
Net cash used by financing activities	(2,781)	(324,991)	322,210
Net effect of changes in exchange rates on cash	(569)	1,335	(1,904)
Net change in cash and cash equivalents	$ (7,178)	$ (28,446)	$ 21,268

Operating Activities. The decrease in cash provided by operating activities of $0.5 million was driven primarily by the changes in our operating assets and liabilities, offset by the increase in net income. The following table presents cash flows from changes in operating assets and liabilities:

(dollars in thousands)	For the Three Months Ended March 31, 2019	2018	Dollar Change
Accounts receivable	$ (33,421)	$ (21,800)	$ (11,621)
Inventories	(14,521)	(8,070)	(6,451)
Accounts payable	699	(1,939)	2,638
Deferred revenue	(3,098)	(1,327)	(1,771)
Other assets and liabilities	(49,601)	(52,302)	2,701
Total change in cash due to changes in operating assets and liabilities	$ (99,942)	$ (85,438)	$ (14,504)

Cash used due to changes in operating assets and liabilities during the three months ended March 31, 2019, as compared to the same period in the prior year, increased approximately $14.5 million primarily due to the impact of our cash used for the increase in accounts receivable as a result of revenue growth, and cash used by increases in inventory driven by timing of inventory receipts.

We have historically experienced proportionally lower net cash flows from operating activities during the first quarter and proportionally higher cash flows from operating activities for the remainder of the year driven primarily by payments related to annual employee incentive programs in the first quarter following the year for which the bonuses were earned and the seasonality of vector-borne disease testing, which has historically resulted in significant increases in accounts receivable balances during the first quarter of the year.

Investing Activities. Cash used by investing activities was $38.2 million for the three months ended March 31, 2019, as compared to cash provided by investing activities of $260.3 million for the same period in the prior year. This change in investing cash activity was primarily due to the sale of marketable securities in 2018, as a result of our repatriation of cash and investments held by our foreign subsidiaries, as well as increased capital spending as we expand our Westbrook, Maine headquarters and relocate our core reference laboratory in Germany.

Financing Activities. Cash used by financing activities was $2.8 million for the three months ended March 31, 2019, as compared to cash used by financing activities of $325.0 million for the same period in the prior year. The decrease in cash used by financing activities was due to a larger repayment on our revolving Credit Facility in 2018 from repatriated foreign cash, an issuance of $100 million senior notes during the first quarter of 2019, and a decrease in repurchases of our common stock in the current period as compared to the same period in the prior year.

Cash used to repurchase shares of our common stock decreased $29.2 million during the three months ended March 31, 2019, as compared to the same period in the prior year. We believe that the repurchase of our common stock is a favorable means of returning value to our stockholders and we also repurchase our stock to offset the dilutive effect of our share-based compensation programs. Repurchases of our common stock may vary depending upon the level of other investing activities and the share price. See Note 10 to the unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information about our share repurchases.

Net borrowing and repayment activity under our Credit Facility resulted in cash used of $52.0 million during the three months ended March 31, 2019, as compared to $247.5 million of cash used in the same period of the prior year. At March 31, 2019, we had $347.0 million outstanding under the Credit Facility. The general availability of funds under our Credit Facility was further reduced by $1.3 million for a letter of credit that was issued in connection with claims under our workers' compensation policy. The Credit Facility contains affirmative, negative, and financial covenants customary for financings of this type. The negative covenants include restrictions on liens, indebtedness of subsidiaries of the Company, fundamental changes, investments, transactions with affiliates, certain restrictive agreements and violations of laws and regulations. The obligations under our Credit Facility may be accelerated upon the occurrence of an event of default under the Credit Facility, which includes customary events of default including payment defaults, defaults in the performance of the affirmative, negative and financial covenants, the inaccuracy of representations or warranties, bankruptcy and insolvency related defaults, defaults relating to judgments, certain events related to employee pension benefit plans under the Employee Retirement Income Security Act of 1974, the failure to pay specified indebtedness, cross-acceleration to specified indebtedness and a change of control default.

On March 14, 2019, we amended our Existing Agreement with MetLife, submitted a request for purchase and drew $100 million of our Shelf Notes at 4.19% interest per annum rate, due March 14, 2029 (the "Series C Notes"). Series C Notes proceeds were used for general corporate purposes, including a partial repayment of our Credit Facility.

Since December 2013, we have issued and sold through private placements senior notes having an aggregate principal amount of approximately $700 million, including the $100 million Series C Notes, pursuant to certain note purchase agreements (collectively, the "Senior Note Agreements"). The Senior Note Agreements contain affirmative, negative, and financial covenants customary for agreements of this type. The negative covenants include restrictions on liens, indebtedness of our subsidiaries, priority indebtedness, fundamental changes, investments, transactions with affiliates, certain restrictive agreements and violations of laws and regulations.

Should we elect to prepay the senior notes, such aggregate prepayment will include the applicable make-whole amount(s), as defined within the applicable Senior Note Agreements. Additionally, in the event of a change in control of the Company or upon the disposition of certain assets of the Company the proceeds of which are not reinvested (as defined in the Senior Note Agreements), we may be required to prepay all or a portion of the senior notes. The obligations under the senior notes may be accelerated upon the occurrence of an event of default under the applicable Senior Note Agreements, each of which includes customary events of default including payment defaults, defaults in the performance of the affirmative, negative and financial covenants, the inaccuracy of representations or warranties, bankruptcy and insolvency related defaults, defaults relating to judgments, certain events related to employee pension benefit plans under the Employee Retirement Income Security Act of 1974, the failure to pay specified indebtedness and cross-acceleration to specified indebtedness.

Effect of Currency Translation on Cash. The net effect of changes in foreign currency exchange rates are related to changes in exchange rates between the U.S. dollar and the functional currencies of our foreign subsidiaries. These changes will fluctuate for each period presented as the value of the U.S. dollar relative to the value of the foreign currencies changes. A currency's value depends on many factors, including interest rates and the country's debt levels and strength of economy.

Off-Balance Sheet Arrangements. We have no off-balance sheet arrangements or variable interest entities, except for letters of credit and third-party guarantees.

Financial Covenant. The sole financial covenant of our Credit Facility and Senior Note Agreements is a consolidated leverage ratio test that requires our ratio of debt to earnings before interest, taxes, depreciation and amortization and certain other non-cash charges ("Adjusted EBITDA") not to exceed 3.5-to-1. At March 31, 2019, we were in compliance with such covenant. The following details our consolidated leverage ratio calculation as of March 31, 2019:

Trailing 12 Months Adjusted EBITDA:	**Twelve months ended March 31, 2019**
Net income attributable to stockholders (as reported)	$ 390,261
Interest expense	33,856
Provision for income taxes	87,905
Depreciation and amortization	83,729
Share-based compensation expense	25,531
Extraordinary and other non-recurring non-cash charges	2,629
Adjusted EBITDA	$ 623,911

Debt to Adjusted EBITDA Ratio:	**March 31, 2019**
Line of credit	$ 346,998
Long-term debt	699,334
Total debt	1,046,332
Acquisition-related contingent consideration payable	4,507
Financing leases	220
Deferred financing costs	497
Gross debt	1,051,556
Gross debt to Adjusted EBITDA ratio	1.69
Less: Cash and cash equivalents	(116,616)
Net debt	$ 934,940
Net debt to Adjusted EBITDA ratio	1.50

Adjusted EBITDA, gross debt, net debt, gross debt to Adjusted EBITDA ratio and net debt to Adjusted EBITDA ratio are non-GAAP financial measures which should be considered in addition to, and not as a replacement for, financial measures presented according to U.S. GAAP. Management believes that reporting these non-GAAP financial measures provides supplemental analysis to help investors further evaluate our business performance and available borrowing capacity under our Credit Facility.

Other Commitments, Contingencies and Guarantees

Significant commitments, contingencies and guarantees at March 31, 2019, are described in Note 14 to the unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

For quantitative and qualitative disclosures about market risk affecting us, see the section under the heading "Part II, Item 7A. Quantitative and Qualitative Disclosure About Market Risk" of our 2018 Annual Report. As of the date of this Quarterly Report on Form 10-Q, there have been no material changes to the market risks described in our 2018 Annual Report, except for the impact of foreign exchange rates, as discussed below.

Foreign Currency Exchange Impacts. Approximately 21% of our consolidated revenue was derived from products manufactured in the U.S. and sold internationally in local currencies for the three months ended March 31, 2019, as compared to 22% for the three months ended March 31, 2018. Strengthening of the U.S. dollar exchange rate relative to other currencies has a negative impact on our revenues derived in currencies other than the U.S. dollar and on profits of products manufactured in the U.S. and sold internationally, and a weakening of the U.S. dollar has the opposite effect. Similarly, to the extent that the U.S. dollar is stronger in current or future periods relative to the exchange rates in effect in the corresponding prior periods, our growth rate will be negatively affected. The impact of foreign currency denominated costs and expenses and foreign currency denominated supply contracts partly offsets this exposure. Additionally, our designated hedges of intercompany inventory purchases and sales help delay the impact of certain exchange rate fluctuations on non-U.S. dollar denominated revenues.

Our foreign currency exchange impacts are comprised of three components: 1) local currency revenues and expenses; 2) the impact of hedge contracts; and 3) intercompany and monetary balances for our subsidiaries that are denominated in a currency that is different from the functional currency used by each subsidiary. Based on projected revenues and expenses for the remainder of 2019, excluding the impact of intercompany and trade balances denominated in currencies other than the functional subsidiary currencies, we project a 1% strengthening of the U.S. dollar would reduce revenue by approximately $6 million and operating income by approximately $3 million. Additionally, we project our foreign currency hedge contracts in place as of March 31, 2019, would result in incremental offsetting gains of approximately $1 million. The impact of the intercompany and trade balances, and monetary balances referred to in the third component above have been excluded, as they are transacted at multiple times during the year and we are not able to reliably forecast the impact that changes in exchange rates would have on such balances.

At our current foreign currency exchange rate assumptions, we anticipate the effect of a stronger U.S. dollar for the remainder of the year will have an unfavorable impact on our operating results by decreasing our revenues, operating profit, and diluted earnings per share for the year ending December 31, 2019, by approximately $38 million, $3 million, and $0.03 per share, respectively. This unfavorable currency impact includes a favorable impact of approximately $12 million from foreign currency hedging activity. The actual impact of changes in the value of the U.S. dollar against foreign currencies in which we transact may materially differ from our expectations described above. The above estimates assume that the value of the U.S. dollar will reflect the euro at $1.11, the British pound at $1.29, the Canadian dollar at $0.74, and the Australian dollar at $0.71; and the Japanese yen at ¥112, the Chinese renminbi at RMB 6.79 and the Brazilian real at R$3.88 relative to the U.S. dollar for the remainder of 2019.

The following table presents the foreign currency exchange impact on our revenues, operating profit, and diluted earnings per share for the three months ended March 31, 2019 and 2018, as compared to the respective prior period:

(dollars in thousands)	For the Three Months Ended March 31, 2019	For the Three Months Ended March 31, 2018
Revenue impact	**$ (15,119)**	**$ 17,816**
Operating profit impact, excluding hedge activity	$ (6,964)	$ 7,142
Hedge losses (gains) - prior year	1,835	(1,075)
Hedge gains (losses) - current year	1,411	(1,835)
Hedging activity impact	3,246	(2,910)
Operating profit impact, including hedge activity	**$ (3,718)**	**$ 4,232**
Diluted earnings per share impact, including hedge activity	**$ (0.03)**	**$ 0.04**

Item 4. Controls and Procedures

Disclosure Controls and Procedures

Our management is responsible for establishing and maintaining disclosure controls and procedures, as defined by the SEC in its Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 as amended (the “Exchange Act”). The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures at March 31, 2019, our Chief Executive Officer and Chief Financial Officer have concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the three months ended March 31, 2019, that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

Due to the nature of our activities, we are at times subject to pending and threatened legal actions that arise out of the ordinary course of business. In the opinion of management, based in part upon advice of legal counsel, the disposition of any such currently pending matters is not expected to have a material effect on our results of operations, financial condition, or cash flows. However, the results of legal actions cannot be predicted with certainty. Therefore, it is possible that our results of operations, financial condition or cash flows could be materially adversely affected in any particular period by the unfavorable resolution of one or more legal actions.

Item 1A. Risk Factors

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the risk factors discussed in “Part I, Item 1A. Risk Factors” in our 2018 Annual Report, which could materially affect our business, financial condition, or future results. There have been no material changes from the risk factors previously disclosed in the 2018 Annual Report. The risks described in our 2018 Annual Report are not the only risks facing our Company. 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 future results.

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

During the three months ended March 31, 2019, we repurchased shares of common stock as described below:

Period	Total Number of Shares Purchased (a)		Average Price Paid per Share (b)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1) (c)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (1) (d)
January 1 to January 31, 2019	130,229		$ 192.88	129,223	3,083,631
February 1 to February 28, 2019	109,530		$ 207.62	74,660	3,008,971
March 1 to March 31, 2019	63,533		$ 210.99	63,533	2,945,438
Total	303,292	(2)	$ 202.00	267,416	2,945,438

The total shares repurchased include shares purchased in the open market and shares surrendered for employee statutory tax withholding. See Note 10 to the unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information about our share repurchases.

(1) On August 13, 1999, our Board of Directors approved and announced the repurchase of our common stock in the open market or in negotiated transactions pursuant to the Company's share repurchase program. The authorization has been increased by the Board of Directors on numerous occasions; most recently, on May 2, 2017, the maximum level of shares that may be repurchased under the program was increased from 65 million to 68 million shares. There is no specified expiration date for this share repurchase program. There were no other repurchase programs outstanding during the three months ended March 31, 2019, and no share repurchase programs expired during the period. Repurchases of 267,416 shares were made during the three months ended March 31, 2019, in transactions made pursuant to our share repurchase program.

(2) During the three months ended March 31, 2019, we received 35,876 shares of our common stock that were surrendered by employees in payment for the minimum required withholding taxes due on the vesting of restricted stock units and settlement of deferred stock units. In the above table, these shares are included in columns (a) and (b), but excluded from columns (c) and (d). These shares do not reduce the number of shares that may yet be purchased under the share repurchase program.

Item 6. Exhibits

Exhibit No.	Description
10.1	Multicurrency Note Purchase and Private Shelf Agreement, dated as of December 19, 2014, among the Company, as issuer, and Metropolitan Life Insurance Company, White Mountains Advisors, LLC, as investment manager, and MetLife Investment Management, LLC, as sub-investment manager for Symetra Life Insurance Company, and MetLife Investment Management, LLC, as investment manager for each of MetLife Insurance K.K., AXIS Reinsurance Company, and Union Fidelity Life Insurance Company, as purchasers. (filed as Exhibit 10.1 to Current Report on Form 8-K filed March 15, 2019, File No. 000-19271, and incorporated herein by reference).
10.2	First Amendment to Multicurrency Note Purchase and Private Shelf Agreement, dated March 14, 2019, among the Company, as issuer, each of the Subsidiary Guarantors (as defined therein), Metropolitan Life Insurance Company ('MetLife') and each of the holders of the Notes (as defined therein). (filed as Exhibit 10.2 to Current Report on Form 8-K filed March 15, 2019, File No. 000-19271, and incorporated herein by reference).
31.1	Certification of Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

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.

IDEXX LABORATORIES, INC.

Date: May 1, 2019

/s/ Brian P. McKeon

Brian P. McKeon

Executive Vice President, Chief Financial Officer and Treasurer

(Principal Financial Officer)