UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

	FORM 6-K
PUR	PORT OF FOREIGN PRIVATE ISSUER SUANT TO RULE 13a-16 OR 15d-16 OF SECURITIES EXCHANGE ACT OF 1934
For	the quarterly period ended September 30, 2020
	Commission File Number 001-38332
	QIAGEN N.V. Hulsterweg 82 5912 PL Venlo The Netherlands
Indicate by check mark whether the r	egistrant files or will file annual reports under cover of Form 20-F or Form 40-F:
	Form 20-F ⊠ Form 40-F □
Indicate by check mark whether the region $101(b)(1)$: \square	egistrant is submitting the Form 6-K in paper as permitted by Regulation S-T
Indicate by check mark whether the r	egistrant is submitting the Form 6-K in paper as permitted by Regulation S-T

QIAGEN N.V.

Form 6-K

TABLE OF CONTENTS

Item	Page
Other Information	<u>3</u>
<u>Signatures</u>	<u>4</u>
Exhibit Index	<u>5</u>

OTHER INFORMATION

For the three and nine months ended September 30, 2020, QIAGEN N.V. prepared its quarterly report under United States generally accepted accounting principles (U.S. GAAP). This quarterly report is furnished herewith as Exhibit 99.1 and incorporated by reference herein.

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.

QIAGEN N.V.	
BY:	/s/ Roland Sackers
_	Roland Sackers
	Chief Financial Officer

Date: October 30, 2020

EXHIBIT INDEX

Exhibit No.	Exhibit
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<u>44</u>

QIAGEN N.V. AND SUBSIDIARIES

U.S. GAAP QUARTERLY REPORT FOR THE PERIOD ENDED SEPTEMBER 30, 2020

TABLE OF CONTENTS

Financial Information

Risk Factors

Condensed Consolidated Financial Statements	
Condensed Consolidated Balance Sheets as of September 30, 2020 (unaudited) and December 31, 2019	2
Condensed Consolidated Statements of Income (Loss) (unaudited) for the three and nine months ended September 30, 2020 and 2019	<u>4</u>
Condensed Consolidated Statements of Comprehensive Income (Loss) (unaudited) for the three and nine months ended September 30, 2020 and 2019	<u>6</u>
Condensed Consolidated Statements of Changes in Equity (unaudited) for the three and nine months ended September 30, 2020 and 2019	7
Condensed Consolidated Statements of Cash Flows (unaudited) for the nine months ended September 30, 2020 and 2019	9
Notes to Condensed Consolidated Financial Statements (unaudited)	10
Operating and Financial Review and Prospects	<u>35</u>
Quantitative and Qualitative Disclosures About Market Risk	<u>42</u>
Recent Authoritative Pronouncements	<u>43</u>
Application of Critical Accounting Policies, Judgments and Estimates	<u>43</u>
Off-Balance Sheet Arrangements	<u>43</u>
Contractual Obligations	<u>43</u>
Legal Proceedings	<u>43</u>

CONDENSED CONSOLIDATED BALANCE SHEETS (in thousands)

	Note	September 30, 2020	December 31, 2019
		(unaudited)	
Assets			
Current assets:			
Cash and cash equivalents		\$ 465,352	\$ 623,647
Restricted cash		3,939	5,743
Short-term investments		36,602	129,586
Accounts receivable, net of allowance of \$29,916 and \$12,115 in 2020 and 2019, respectively		373,064	385,117
Income taxes receivable		54,338	42,119
Inventories, net	(11)	254,642	170,704
Fair value of derivative instruments - current	(8)	262,552	107,868
Prepaid expenses and other current assets (of which \$10,291 and \$13,697 in 2020 and 2019 due from related parties, respectively)	(8)	137,210	105,464
Total current assets		1,587,699	1,570,248
Long-term assets:			
Property, plant and equipment, net of accumulated depreciation of \$613,427 and \$699,130 in 2020 and 2019, respectively		506,308	455,243
Goodwill	(6)	2,313,246	2,140,503
Intangible assets, net of accumulated amortization of \$783,952 and \$776,520 in 2020 and 2019, respectively	(6)	769,902	632,434
Deferred income tax assets		49,176	56,542
Fair value of derivative instruments - long-term	(8)	344,763	192,266
Other long-term assets (of which \$25,726 and \$16,830 in 2020 and 2019 due from related parties, respectively)	(5)	200,383	188,380
Total long-term assets		4,183,778	3,665,368
Total assets		\$ 5,771,477	\$ 5,235,616

CONDENSED CONSOLIDATED BALANCE SHEETS (in thousands, except par value)

	Note	September 30, 2020	December 31, 2019
		(unaudited)	
Liabilities and equity			
Current liabilities:			
Current portion of long-term debt	(7)	\$ 311,196	\$ 285,244
Short-term loans	(7)	58,540	
Accrued and other current liabilities (of which \$1,536 and \$15,404 in 2020 and 2019 due to related parties, respectively)	(8, 9, 13)	329,218	444,303
Fair value of derivative instruments - current	(8)	251,338	103,175
Accounts payable		90,859	84,767
Income taxes payable		49,474	33,856
Total current liabilities		1,090,625	951,345
Long-term liabilities:			
Long-term debt, net of current portion	(7)	1,418,320	1,421,108
Fair value of derivative instruments - long-term	(8)	345,474	196,929
Other long-term liabilities	(9)	162,676	106,201
Deferred income tax liabilities		43,249	23,442
Total long-term liabilities		1,969,719	1,747,680
Commitments and contingencies	(15)		
Equity:			
Preference shares, 0.01 EUR par value, authorized—450,000 shares, no shares issued and outstanding		_	_
Financing preference shares, 0.01 EUR par value, authorized—40,000 shares, no shares issued and outstanding		_	_
Common Shares, 0.01 EUR par value, authorized—410,000 shares, issued—230,829 shares in 2020 and in 2019	(12)	2,702	2,702
Additional paid-in capital	(12)	1,805,275	1,777,017
Retained earnings		1,271,964	1,178,457
Accumulated other comprehensive loss	(12)	(292,934)	(309,619)
Less treasury shares at cost—2,080 and 3,077 shares in 2020 and 2019, respectively	(12)	(75,874)	(111,966)
Total equity		2,711,133	2,536,591
Total liabilities and equity		\$ 5,771,477	\$ 5,235,616

CONDENSED CONSOLIDATED STATEMENTS OF INCOME (LOSS) (in thousands, except share data)

Three months ended September 30,

		Septem	iber .	30,
	Note	 2020		2019
		(unau	dited	l)
Net sales	(13)	\$ 483,763	\$	382,686
Cost of sales:				
Cost of sales		147,297		109,648
Acquisition-related intangible amortization		15,692		18,096
Total cost of sales		 162,989		127,744
Gross profit		320,774		254,942
Operating expenses:				
Research and development		36,097		41,845
Sales and marketing		102,176		97,018
General and administrative		27,928		28,752
Acquisition-related intangible amortization		5,267		6,133
Restructuring, acquisition, integration and other, net	(1, 4)	104,798		151,075
Long-lived asset impairments	(4)	_		137,572
Total operating expenses		276,266		462,395
Income (loss) from operations		44,508		(207,453)
Other income (expense):				
Interest income		1,715		4,665
Interest expense		(18,052)		(17,248)
Other expense, net		 (267)		(6,961)
Total other expense, net		(16,604)		(19,544)
Income (loss) before income taxes		27,904		(226,997)
Income tax expense (benefit)		10,994		(66,362)
Net income (loss)		\$ 16,910	\$	(160,635)
Basic earnings (loss) per common share		\$ 0.07	\$	(0.71)
Diluted earnings (loss) per common share		\$ 0.07	\$	(0.71)
Weighted-average shares outstanding				
Basic		228,733		226,520
Diluted		235,785		226,520

CONDENSED CONSOLIDATED STATEMENTS OF INCOME (LOSS) (in thousands, except share data)

Nine months ended September 30,

		Septem	ber	30,
	Note	 2020	_	2019
		(unau	dite	d)
Net sales	(13)	\$ 1,299,112	\$	1,112,952
Cost of sales:				
Cost of sales		394,084		331,953
Acquisition-related intangible amortization		45,746		55,302
Total cost of sales		 439,830	_	387,255
Gross profit		859,282		725,697
Operating expenses:				
Research and development		102,727		123,460
Sales and marketing		292,309		293,591
General and administrative		79,985		86,978
Acquisition-related intangible amortization		15,379		24,146
Restructuring, acquisition, integration and other, net	(1,4)	137,331		164,818
Long-lived asset impairments	(4)	 1,034		138,830
Total operating expenses		628,765		831,823
Income (loss) from operations		230,517		(106,126)
Other income (expense):				
Interest income		8,396		17,916
Interest expense		(54,414)		(55,864)
Other expense, net		(1,514)		(2,642)
Total other expense, net		(47,532)		(40,590)
Income (loss) before income taxes		182,985		(146,716)
Income tax expense (benefit)		36,482		(60,328)
Net income (loss)		\$ 146,503	\$	(86,388)
Basic earnings (loss) per common share		\$ 0.64	\$	(0.38)
Diluted earnings (loss) per common share		\$ 0.63	\$	(0.38)
Weighted-average shares outstanding				
Basic		228,378		226,447
Diluted		234,008		226,447

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS) (in thousands)

		Three months ended September 30,			
	Note		30, 2019		
	Note		2020 (unau	dited	
Net income (loss)		\$	16,910	\$	(160,635)
Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods:					
(Losses) gains on cash flow hedges, net of tax benefit of \$2.6 million in 2020 and tax expense of \$3.3 million in 2019	(8)		(9,253)		9,908
Reclassification adjustments on cash flow hedges, net of tax expense of \$2.0 million in 2020 and tax benefit of \$2.2 million in 2019	(8)		7,187		(6,628)
Cash flow hedges, net of tax			(2,066)		3,280
Net investment hedge	(8)		(13,001)		12,493
Foreign currency translation adjustments, net of tax expense of \$0.5 million in 2020 and tax benefit of \$0.1 million in 2019			73,744		(54,799)
			58,677		(39,026)
Total other comprehensive income (loss)					
Total other comprehensive income (loss) Comprehensive income (loss)		\$	75,587	\$	(199,661)
•	Noto	\$	Nine mon Septem	ths e	nded 30,
•	Note	\$	Nine mon Septem 2020	ths e	nded 30, 2019
•	Note	\$	Nine mon Septem	ths e	nded 30, 2019
Comprehensive income (loss)	Note		Nine mon Septem 2020 (unau	ths e	nded 80, 2019
Comprehensive income (loss) Net income (loss)	Note (8)		Nine mon Septem 2020 (unau	ths e	nded 80, 2019
Net income (loss) Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods: Gains on cash flow hedges, net of tax expense of \$0.4 million in 2020 and \$4.4 million			Nine mon Septem 2020 (unau 146,503	ths e	nded 80, 2019 () (86,388)
Net income (loss) Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods: Gains on cash flow hedges, net of tax expense of \$0.4 million in 2020 and \$4.4 million in 2019 Reclassification adjustments on cash flow hedges, net of tax expense of \$1.9 million in	(8)		Nine mon Septem 2020 (unau 146,503	ths e	nded 30, 2019 1) (86,388)
Net income (loss) Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods: Gains on cash flow hedges, net of tax expense of \$0.4 million in 2020 and \$4.4 million in 2019 Reclassification adjustments on cash flow hedges, net of tax expense of \$1.9 million in 2020 and tax benefit of \$2.5 million in 2019	(8)		Nine mon Septem 2020 (unau 146,503	ths e	nded 30, 2019 () (86,388) 13,159 (7,574)
Net income (loss) Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods: Gains on cash flow hedges, net of tax expense of \$0.4 million in 2020 and \$4.4 million in 2019 Reclassification adjustments on cash flow hedges, net of tax expense of \$1.9 million in 2020 and tax benefit of \$2.5 million in 2019 Cash flow hedges, net of tax	(8)		Nine mon Septem 2020 (unau 146,503 1,620 6,680 8,300	ths e	nded 30, 2019 () (86,388) 13,159 (7,574) 5,585
Net income (loss) Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods: Gains on cash flow hedges, net of tax expense of \$0.4 million in 2020 and \$4.4 million in 2019 Reclassification adjustments on cash flow hedges, net of tax expense of \$1.9 million in 2020 and tax benefit of \$2.5 million in 2019 Cash flow hedges, net of tax Net investment hedge Foreign currency translation adjustments, net of tax expense of \$1.1 million in 2020 and	(8)		Nine mon Septem 2020 (unau 146,503 1,620 6,680 8,300 (12,084)	ths e	nded 30, 2019 (1) (86,388) 13,159 (7,574) 5,585 14,278

CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY (in thousands)

		Commo	n Shares							Treasui		
(unaudited)	Note	Shares	Amount	1	Additional Paid-In Capital	Retained Earnings			Accumulated Other Comprehensive Loss	Shares	Amount	Total Equity
Balance at June 30, 2020		230,829	\$ 2,702	\$	1,793,521	\$	1,262,077	\$	(351,611)	(2,343)	\$ (85,838)	\$ 2,620,851
Net Income		_	_		_		16,910		_	_	_	16,910
Conversion of warrants	(12)	_	_		(2,963)		_		_	252	_	(2,963)
Unrealized loss, net on hedging contracts	(8)	_	_		_		_		(22,254)	_	_	(22,254)
Realized loss, net on hedging contracts	(8)	_	_		_		_		7,187	_	_	7,187
Translation adjustment, net	(12)	_	_		_		_		73,744	_	_	73,744
Issuance of common shares in connection with stock plan		_	_		_		(7,023)		_	13	10,085	3,062
Tax withholding related to vesting of stock awards	(16)	_	_		_		_		_	(2)	(121)	(121)
Share-based compensation	(16)				14,717							14,717
Balance at September 30, 2020		230,829	\$ 2,702	\$	1,805,275	\$	1,271,964	\$	(292,934)	(2,080)	\$ (75,874)	\$ 2,711,133
Balance at June 30, 2019		230,829	\$ 2,702	\$	1,734,421	\$	1,371,445	\$	(314,090)	(4,359)	\$ (162,087)	\$ 2,632,391
Net loss		_	_		_		(160,635)		_	_	_	(160,635)
Conversion of warrants		_	_		(87)		(128)		_	5	215	_
Unrealized gain, net on hedging contracts	(8)	_	_		_		_		22,401	_	_	22,401
Realized gain, net on hedging contracts	(8)	_	_		_		_		(6,628)	_	_	(6,628)
Translation adjustment, net	(12)	_	_		_		_		(54,799)	_	_	(54,799)
Purchase of treasury shares	(12)	_	_		_		_		_	_	(56)	(56)
Issuance of common shares in connection with stock plan		_	_		_		(323)		_	12	431	108
Tax withholding related to vesting of stock awards	(16)	_	_		_		_		_	(1)	(128)	(128)
Share-based compensation	(16)				34,788							34,788
Balance at September 30, 2019		230,829	\$ 2,702	\$	1,769,122	\$	1,210,359	\$	(353,116)	(4,343)	\$ (161,625)	\$ 2,467,442

CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY (in thousands)

		Common Shares								Treasu				
(unaudited)	Note	Shares	Aı	Amount		Additional Paid-In Capital		Retained Earnings		Accumulated Other Omprehensive Loss	Shares	Amo	ount	Total Equity
Balance at December 31, 2019		230,829	\$	2,702	\$	1,777,017	\$	1,178,457	\$	(309,619)	(3,077)	\$ (11	1,966)	\$ 2,536,591
ASC 326 impact of change in accounting policy	(2)	_		_		_		(15,074)		_	_		_	(15,074)
Net income		_		_		_		146,503		_	_		_	146,503
Conversion of warrants	(12)	_		_		(2,963)		_		_	252		_	(2,963)
Unrealized loss, net on hedging contracts	(8)	_		_		_		_		(10,464)	_		_	(10,464)
Realized loss, net on hedging contracts	(8)	_		_		_		_		6,680	_		_	6,680
Translation adjustment, net	(12)	_		_		_		_		20,469	_		_	20,469
Issuance of common shares in connection with stock plan		_		_		_		(37,922)		_	1,049	4	8,365	10,443
Tax withholding related to vesting of stock awards	(16)	_		_		_		_		_	(304)	(1	2,273)	(12,273)
Share-based compensation	(16)			_	31,221		_			_	_			31,221
Balance at September 30, 2020		230,829	\$	2,702	\$	1,805,275	\$	1,271,964	\$	(292,934)	(2,080)	\$ (7	5,874)	\$ 2,711,133
Balance at December 31, 2018		230,829	\$	2,702	\$	1,742,191	\$	1,379,624	\$	(310,644)	(5,320)	\$ (17	8,903)	\$ 2,634,970
ASC 842 impact of change in accounting policy		_		_		_		(316)		_	_		_	(316)
Net loss		_		_		_		(86,388)		_	_		_	(86,388)
Conversion of warrants	(12)	_		_		(31,067)		(37,698)		_	2,056	6	8,761	(4)
Unrealized gain, net on hedging contracts	(8)	_		_		_		_		27,437	_		_	27,437
Realized gain, net on hedging contracts	(8)	_		_		_		_		(7,574)	_		_	(7,574)
Translation adjustment, net	(12)	_		_		_		_		(62,335)	_		_	(62,335)
Purchase of treasury shares	(12)	_		_		_		_		_	(1,987)	(7	4,450)	(74,450)
Issuance of common shares in connection with stock plan		_		_		_		(44,863)		_	1,520	4	6,660	1,797
Tax withholding related to vesting of stock awards	(16)	_		_		_		_		_	(612)	(2	3,693)	(23,693)
Share-based compensation	(16)			_		57,998		_		_			_	57,998
Balance at September 30, 2019		230,829	\$	2,702	\$	1,769,122	\$	1,210,359	\$	(353,116)	(4,343)	\$ (16	1,625)	\$ 2,467,442

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (in thousands)

Nine months ended September 30, 2020 2019 Note (unaudited) Cash flows from operating activities: Net income (loss) \$ 146,503 \$ (86,388)Adjustments to reconcile net income to net cash provided by operating activities, net of effects of businesses acquired: Depreciation and amortization 147,844 178,494 Non-cash impairments (4, 5)1.034 143.629 31,379 Amortization of debt discount and issuance costs 31,108 **(7)** 31,221 57,998 Share-based compensation expense (16)Deferred income tax benefit (17,793)(17,290)(Gain) loss on marketable securities (1,343)2,669 Reversals of contingent consideration (9)(7,433)Loss on sale of investment 1,467 Other items, net including fair value changes in derivatives (1,566)(3,058)Net changes in operating assets and liabilities: Accounts receivable (9,016)(16,036)Inventories (77,777)(22,696)Prepaid expenses and other current assets (40,222)2,958 Other long-term assets (82)(903)Accounts payable (7,496)(21,345)Accrued and other current liabilities (47,682)53,121 Income taxes 1,768 (73,889)Other long-term liabilities 29,855 474 188,094 221,413 Net cash provided by operating activities Cash flows from investing activities: Purchases of property, plant and equipment (86,746)(86,399)Proceeds from sale of equipment (150,851)(138, 197)Purchases of intangible assets **(6)** Proceeds from (purchases of) investments, net 1,001 (1,761)(239,572)Cash paid for acquisitions, net of cash acquired (3) (67,907)Purchases of short-term investments (49,770)(228,959)Proceeds from redemptions of short-term investments 144,621 360,190 Proceeds from divestiture (3) (4,317)21,455 Cash (paid) received for collateral asset Other investing activities (3,145)10 Net cash used in investing activities (388,779)(141,568)Cash flows from financing activities: Proceeds from short-term debt 59,345 **(7)** Proceeds from exercise of call option related to cash convertible notes **(7)** 12,271 134,737 Payment of intrinsic value of cash convertible notes (11,233)**(7)** (133,763)Repayment of long-term debt **(7)** (23,200)(433,400)Proceeds from issuance of common shares 7,479 1,797 Tax withholding related to vesting of stock awards (16) (13,422)(23,693)Purchase of treasury shares (12)(74,450)15,100 Cash received for collateral liability 4,200 Other financing activities (3,551)(11,680)Net cash provided by (used in) financing activities 42,789 (536,252)Effect of exchange rate changes on cash, cash equivalents and restricted cash (2,203)(1,812)(160,099)(458,219)Net decrease in cash, cash equivalents and restricted cash 629,390 1,159,079 Cash, cash equivalents and restricted cash, beginning of period

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

Cash, cash equivalents and restricted cash, end of period

700,860

469,291

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (unaudited)

1. Corporate Information

QIAGEN N.V. is a public limited liability company ('naamloze vennootschap') under Dutch law with registered office at Hulsterweg 82, 5912 PL Venlo, The Netherlands. QIAGEN N.V., a Netherlands holding company, and subsidiaries (we, our or the Company) is the leading global provider of Sample to Insight solutions that are used by over 500,000 customers worldwide to transform biological samples into valuable molecular insights. Our sample technologies are used to isolate and process DNA, RNA and proteins - the building blocks of life - from blood, tissue and other materials. Assay technologies are used to make these biomolecules visible and ready for analysis. Bioinformatics software and knowledge bases are used to analyze and interpret complex genomic data to report relevant, actionable insights. Automation solutions are used to tie these technologies together in seamless and cost-effective workflows. We provide this portfolio to two major customer classes: Molecular Diagnostics (human healthcare) and Life Sciences comprised of Academia / Applied Testing (life sciences research, forensics and food safety) and Pharma. With approximately 5,300 employees in over 35 locations worldwide, we market our products in more than 130 countries.

Announced Merger with Thermo Fisher Scientific Inc.

On March 3, 2020, QIAGEN and Thermo Fisher Scientific Inc. (NYSE: TMO) announced that their boards of directors, as well as the Managing Board of QIAGEN N.V., unanimously approved Thermo Fisher's proposal to acquire QIAGEN for €39.00 per share in cash. On July 16, 2020, Thermo Fisher and QIAGEN entered into an amendment to the Business Combination Agreement dated as of March 3, 2020 whereby Quebec B.V., the wholly-owned subsidiary of Thermo Fisher making the public tender offer, increased the cash consideration offered per QIAGEN share from €39.00 to €43.00. The amendment also provided for a reduction of the minimum acceptance threshold from 75% to 66.67% of QIAGEN's issued and outstanding ordinary share capital at the end of the acceptance period on August 10, 2020, as well as a \$95.0 million expense reimbursement payable by QIAGEN to Thermo Fisher if the minimum acceptance threshold is not met. On August 13, 2020, QIAGEN announced that Thermo Fisher did not achieve the minimum 66.67% acceptance threshold from QIAGEN shareholders. During the three- and nine-months ended September 30, 2020, we incurred related expenses of \$103.6 million and \$124.5 million, respectively, which includes the \$95.0 million expense reimbursement which was paid when the minimum acceptance threshold was not met. These costs are recorded within restructuring, acquisition, integration and other expenses, net in the accompanying condensed consolidated statements of income (loss).

2. Basis of Presentation and Accounting Policies

Basis of Presentation

The condensed consolidated financial statements include the accounts of QIAGEN N.V. and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. All amounts are presented in U.S. dollars, unless otherwise indicated. Investments in either common stock or in-substance common stock of companies where we exercise significant influence over the operations but do not have control, and where we are not the primary beneficiary, are accounted for using the equity method. All other investments are accounted for at our initial cost, minus any impairment, plus or minus changes from observable price changes in orderly transactions for the identical or a similar investment of the same issuer.

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP) for interim financial information and generally in accordance with the instructions to Form 10-Q and Article 10 of Regulation S-X. Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to the Securities and Exchange Commission (SEC) rules and regulations. In the opinion of management, all adjustments (which include only normal recurring adjustments) necessary for a fair presentation have been included.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and disclosure of contingencies at the date of the financial statements as well as the reported amounts of revenues and expenses during the reporting period. While the COVID-19 pandemic presents additional uncertainty, we continue to use the best information available to form our estimates. Actual results could differ from those estimates.

We undertake business combinations to complement our own internal product development activities. In 2020, we completed the acquisition of the remaining shares of NeuMoDx Molecular, Inc. ("NeuMoDx"), a privately-held U.S. company that designs and develops molecular diagnostics solutions for hospital and clinical reference laboratories. In 2019, we completed three immaterial acquisitions, including the January 2019 acquisition of N-of-One, Inc, a privately-held U.S. molecular decision support company and pioneer in clinical interpretation services for complex genomic data located in Concord, Massachusetts. Accordingly, at their

respective acquisition dates, all the assets acquired and liabilities assumed were recorded at their respective fair values and our consolidated results of operations include the operating results from the acquired companies from the acquisition dates.

We operate as one operating segment in accordance with the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 280, Segment Reporting. We have a common basis of organization and our products and services are offered globally. Our chief operating decision maker (CODM) makes decisions based on the Company as a whole. Accordingly, we operate and make decisions as one reporting unit.

The results of operations for an interim period are not necessarily indicative of results that may be expected for any other interim period or for the full year. These unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 20-F for the year ended December 31, 2019.

Summary of Significant Accounting Policies

The interim condensed consolidated financial statements were prepared based on the same accounting policies as those applied and described in the consolidated financial statements as of December 31, 2019 except for the changes described below in connection with the adoption of ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* as of January 1, 2020.

Accounts Receivable and Allowance for Credit Losses

Our accounts receivable consist of unsecured customer obligations and we are at risk to the extent such amounts become uncollectible. Accounts receivable are carried at face value less an allowance for doubtful accounts as of December 31, 2019, and following the adoption of ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, less an allowance for expected credit losses. We continually monitor accounts receivable balances, and until December 31, 2019, provided for an allowance for doubtful accounts at the time collection became questionable based on payment history or age of the receivable. Subsequent to January 1, 2020, we maintain allowances for credit losses resulting from the expected failure or inability of our customers to make required payments. We recognize the allowance for expected credit losses at inception and reassess regularly considering historical experience with bad debts, the aging of the receivables, credit quality of the customer base, current economic conditions and other reasonable and supportable expectations for future conditions, if applicable. Once a receivable is determined to be uncollectible, the balance is charged against the allowance.

We sell our products worldwide through sales subsidiaries and distributors. There is no concentration of credit risk with respect to trade accounts receivable as we have a large number of internationally dispersed customers. Trade accounts receivable are non-interest bearing and mostly have payment terms of 30-90 days.

The changes in the allowance for credit losses on accounts receivable for the nine months ended September 30, 2020 are as follows:

(in thousands)	 2020
Balance at beginning of year	\$ 12,115
ASC 326 adoption impact	8,089
Additions charged to expense	11,246
Deductions from allowance	(863)
Currency translation adjustments and other	 (671)
Balance at end of period	\$ 29,916

For the nine months ended September 30, 2020, we recorded an increase in the allowance for expected credit losses of \$11.2 million including the forward-looking expected impact of the global economic uncertainty caused by COVID-19.

Loans and Other Receivables and Allowance for Credit Losses

Prepaid expenses and other current assets include other short-term receivables and other long-term assets include long-term loan receivables. Following the adoption of Topic 326, we are required to use the new forward-looking expected credit loss model that replaced the previous incurred credit loss model. The new model generally results in earlier recognition of allowances for credit losses and requires consideration of a broader range of information to estimate expected credit losses over the entire lifetime of the assets. Accordingly, with the adoption of Topic 326, we recorded allowances for credit losses of \$10.2 million for other receivables and \$1.3 million for loan receivables. As of September 30, 2020, allowances for credit losses of \$10.3 million for other receivables are included in prepaid expenses and other current assets and \$1.2 million for loan receivables are included in other long-term assets in the accompanying condensed consolidated balance sheet. The allowances reflect the forward-looking expected impact of non-payment of the contractual amounts due.

Adoption of New Accounting Standards

The following new FASB Accounting Standards Updates (ASU) were adopted in 2020:

ASU 2016-13, Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, provides financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. To achieve this objective, the amendments in ASU 2016-13 replace the incurred loss impairment methodology with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to form credit loss estimates. The measurement of expected credit losses under Topic 326 is applicable to financial assets measured at amortized cost, including loan receivables and held-to-maturity debt securities. It also applies to off-balance sheet credit exposures not accounted for as insurance (loan commitments, standby letters of credit, financial guarantees, and other similar instruments) and net investments in leases recognized by a lessor in accordance with Topic 842 on leases. In addition, Topic 326 made changes to the accounting for available-for-sale debt securities. One such change is to require credit losses to be presented as an allowance rather than as a write-down on available-for-sale debt securities management does not intend to sell or believes is more likely than not they will be required to sell.

We adopted Topic 326 on January 1, 2020 using the modified retrospective approach by recognizing the effect of initially applying Topic 326 as an after-tax \$15.1 million (\$19.6 million pre-tax) adjustment to the opening balance of retained earnings at January 1, 2020 for credit losses on loans, notes and accounts receivable. The adoption did not have an impact on our condensed consolidated statements of income or cash flows.

ASU 2018-18, Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606, precludes an entity from presenting consideration from a transaction in a collaborative arrangement as revenue from contracts with customers if the counterparty is not a customer of that transaction. The guidance amends ASC 808 to refer to unit-of-account guidance in ASC 606 and requires it to be used only when assessing whether a transaction is in the scope of ASC 606. ASU 2018-18 is effective for us for annual periods beginning on January 1, 2020. Entities are required to apply the amendments retrospectively to the date they initially applied ASC 606. We adopted ASU 2018-18 on January 1, 2020 without any cumulative effect.

ASU 2020-03, Codification Improvements to Financial Instruments, was issued to improve and clarify various financial instrument topics, including Topic 326 issued in 2016. The ASU includes seven issues that describe areas of improvement and the related amendments to GAAP. They are intended to make the standards easier to understand and apply and to eliminate inconsistencies. They are narrow in scope and are not expected to significantly change practice for most entities. The amendments have different effective dates with early adoption permitted. We adopted ASU 2020-03 on January 1, 2020 without any effect.

ASU 2020-01, *Investments-Equity Securities (Topic 321)*, *Investments-Equity Method and Joint Ventures (Topic 323)*, and *Derivatives and Hedging (Topic 815)-Clarifying the Interactions between Topic 321*, *Topic 323*, and *Topic 815*, addresses accounting for the transition into and out of the equity method and measuring certain purchased options and forward contracts to acquire investments. The ASU is effective on January 1, 2021. Early adoption is permitted, including early adoption in an interim period. We adopted ASU 2020-01 on June 30, 2020 without any impact.

New Accounting Standards Not Yet Adopted

The following new FASB Accounting Standards Updates, which are not yet adopted, have been grouped by their required effective dates:

First Quarter of 2021

ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, removes certain exceptions for recognizing deferred taxes for investments, performing intraperiod tax allocations and calculating income taxes in interim periods. The ASU also adds guidance to reduce complexity in certain areas, including recognizing deferred taxes for tax goodwill and allocating income taxes to members of a consolidated group. ASU 2019-12 is effective for annual periods beginning on January 1, 2021, with earlier adoption permitted. We intend to adopt the ASU on the effective date of January 1, 2021 and are evaluating the potential impact ASU 2019-12 may have on our consolidated financial statements.

First Quarter of 2022

ASU 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity, reduces the number of accounting models for convertible instruments and allows more contracts to qualify for equity classification. The ASU also amends diluted earnings per share (EPS) calculations for convertible instruments, which will result in more dilutive EPS results. The ASU also amends the requirements for a contract (or embedded derivative) that is potentially settled in an entity's own shares to be classified in equity, which will likely result in more contracts being classified in equity (and more embedded derivatives meeting the derivative scope exception). ASU 2020-06 is effective for annual periods beginning on January 1, 2022, with earlier adoption on January 2, 2021 permitted. We are evaluating the adoption date together with the potential impact that the adoption of ASU 2020-06 may have on our consolidated financial statements.

Through December 31, 2022

ASU 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting, provides companies with optional guidance to ease the potential accounting burden associated with transitioning away from reference rates that are expected to be discontinued. Companies can apply the ASU immediately. However, the guidance will only be available for a limited time, generally through December 31, 2022. We are evaluating the potential impact that ASU 2020-04 may have on our consolidated financial statements.

3. Acquisitions and Divestitures

Business Combinations and Asset Acquisitions

For acquisitions which have been accounted for as business combinations, the acquired companies' results have been included in the accompanying consolidated statements of income (loss) from their respective dates of acquisition. Our acquisitions have historically been made at prices above the fair value of the acquired net assets, resulting in goodwill, due to expectations of synergies of combining the businesses. These synergies include use of our existing infrastructure, such as sales force, shared service centers, distribution channels and customer relations, to expand sales of an acquired business' products; use of the infrastructure of the acquired businesses to cost-effectively expand sales of our products; and elimination of duplicative facilities, functions and staffing.

If the acquired net assets do not constitute a business under the acquisition method of accounting, the transaction is accounted for as an asset acquisition and no goodwill is recognized. In an asset acquisition, the amount allocated to acquired in-process research and development with no alternative future use is charged to expense at the acquisition date.

2020 Business Combinations

In September 2020, we completed the acquisition of the remaining 80.1% of NeuMoDx Molecular, Inc. ("NeuMoDx") shares, a privately-held U.S. company in which we held a minority interest. NeuMoDx designs and develops molecular diagnostics solutions for hospital and clinical reference laboratories. The cash consideration, net of cash acquired totaled \$239.4 million for the remaining shares. Of this amount, \$8.5 million was retained in an escrow account as of September 30, 2020 which is expected to be fully utilized to cover claims for breach of any representations, warranties or indemnities. Prior to acquisition, we held a 19.9% investment in NeuMoDx with a carrying value of \$41.0 million. The fair value of the minority interest investment was determined using a discounted cash flow value based on projections of revenues and expenses and our weighted-average cost of capital. As the acquisition date fair value of the minority interest investment was \$52.7 million, a gain of \$11.7 million was recorded in restructuring, acquisition, integration and other, net in the accompanying condensed consolidated statement of income. We incurred \$1.6 million total acquisition related costs, of which \$0.5 million and \$0.8 million were incurred during the three- and nine-month periods ended September 30, 2020, respectively, and are included in restructuring, acquisition, integration and other, net. Revenue and earnings in the reporting periods since the acquisition date have not been significant.

The allocation of the purchase price is preliminary and not yet finalized. The preliminary allocation of the purchase price is based upon preliminary estimates which used information that was available to management at the time the condensed consolidated financial statements were prepared and these estimates and assumptions are subject to change within the measurement period, up to one year from the acquisition date. Accordingly, the allocation may change. We continue to gather information about the fair value of all assets and liabilities, including intangible assets acquired, and the related deferred taxes.

The preliminary purchase price allocation for NeuMoDx is as follows:

	f September 30, 2020
Purchase Price:	
Cash consideration	\$ 251,730
Fair value of minority interest	52,727
	\$ 304,457
Preliminary Allocation:	
Cash and cash equivalents	\$ 12,291
Accounts receivable	5,691
Inventories	18,866
Prepaid expenses and other current assets	5,943
Accounts payable	(11,168)
Accruals and other current liabilities	(18,770)
Other long-term liabilities	(4,101)
Fixed and other long-term assets	6,698
Developed technology	119,100
In-process research and development	64,800
Patents and license rights	770
Customer backlog	900
Goodwill	149,877
Deferred tax liability on fair value of identifiable intangible assets acquired	(46,440)
Total	\$ 304,457

The in-process research and development recognized relates to technologies that remain in development and have not yet obtained regulatory approvals. The technologies within in-process research and development are expected to be completed within the next three years. The weighted average amortization period for the acquired intangibles is 10 years. The goodwill acquired is not deductible for tax purposes.

Pro forma results

The following unaudited pro forma information assumes that the acquisition of NeuMoDx occurred at the beginning of the periods presented. These unaudited pro forma results are not necessarily indicative of the actual results of operations that could have occurred had the acquisition actually transpired at the beginning of the respective periods.

For the three- and nine-month periods ended September 30, 2020, pro forma net sales would have been \$496.0 million and \$1.33 billion, respectively, pro forma net loss would have been \$0.2 million and net income would have been \$121.6 million, respectively, and pro forma diluted net income per common share would have been nil and \$0.52, respectively. For the three- and nine-month periods ended September 30, 2019, pro forma net sales would have been \$382.7 million and \$1.11 billion, respectively, pro forma net loss would have been \$168.4 million and \$107.0 million, respectively, and pro forma diluted net loss per common share would have been \$0.74 and \$0.47, respectively.

2019 Business Combinations

In January 2019, we completed the acquisition of N-of-One, Inc., a privately-held U.S. molecular decision support company and pioneer in clinical interpretation services for complex genomic data located in Concord, Massachusetts. The cash consideration, net of cash acquired, was \$24.5 million. This acquisition was not significant to the overall consolidated financial statements and as of December 31, 2019, the allocation of the purchase price was final. The acquisition did not have a material impact to net sales, net income or earnings per share and therefore no pro forma information has been provided herein.

In the third quarter of 2019, we acquired two additional companies for total cash consideration, net of cash acquired, of \$43.5 million. The purchase price allocations for these acquisitions were final as of March 31, 2020. These acquisitions were not significant to the overall consolidated financial statements and the acquisitions did not have a material impact to net sales, net income or earnings per share. Thus, no pro forma information has been provided herein.

2019 Asset Acquisition

On January 31, 2019, we acquired the digital PCR asset of Formulatrix, Inc., a developer of laboratory automation solutions. We paid Formulatrix \$125.0 million in cash upon closing. We paid an additional \$80.9 million in the second quarter of 2020 and \$38.4 million in the third quarter of 2020. We will pay future milestone payments of \$16.6 million in the fourth quarter of 2020. As of September 30, 2020, the present value of these future milestone payments totaling \$16.6 million is included in accrued and other current liabilities in the accompanying consolidated balance sheet.

Divestitures

In the fourth quarter of 2019, we sold a portfolio of protein catalysation products for \$1.0 million. An immaterial gain was recorded on the sale.

4. Restructuring and Impairments

As part of our restructuring activities, we incur expenses that qualify as exit and disposal costs under U.S. GAAP including severance and employee costs as well as contract and other costs, primarily contract termination costs, as well as inventory write-offs and other implementation costs primarily related to consulting fees. Personnel related costs primarily relate to cash severance and other termination benefits including accelerated share-based compensation. We also incur expenses that are an integral component of, and are directly attributable to, our restructuring activities which do not qualify as exit and disposal costs under U.S. GAAP, which consist of asset-related costs such as intangible asset impairments and other asset related write-offs.

Personnel costs are primarily determined based on established benefit arrangements, local statutory requirements, or historical benefit practices. We recognize these benefits when payment is probable and estimable. Other benefits which require future service and are associated to non-recurring benefits are recognized ratably over the future service period. Other assets, including inventory, are impaired or written-off if the carrying value exceeds the fair value. All other costs are recognized as incurred.

2019 Restructuring

In the second half of 2019, we decided to suspend development of NGS-related instrument systems and entered into a new strategic partnership with Illumina to commercialize IVD kits worldwide on Illumina's diagnostic sequencers. In order to align our business with this new strategy, we began restructuring initiatives to target resource allocation to growth opportunities in our Sample to Insight portfolio.

Impairments to property, plant and equipment primarily impacted computer software and machinery and equipment. Costs incurred to either purchase software or produce software products and the software components of products to be sold, leased or marketed after technological feasibility is established were previously capitalized during the development of certain NGS-related instrument systems. These long-lived assets were fully impaired due to the decision to suspend further development. In addition to computer software, certain machinery and equipment assets were fully impaired given that these assets had no alternative use following the changes announced for this program and it was estimated that no value was recoverable in a market disposal.

Due to the suspended development, intangible assets associated to this initiative were also assessed for recoverability. The abandoned assets include developed technology related to the suspended projects as well as the termination of licenses which were used exclusively in connection with this program. As a result, we recorded intangible asset impairment charges due to the conclusion that the identified assets have no alternative use outside of the suspended program and thus are fully impaired.

We also conducted an impairment review of inventory and prepaid and other assets and recorded the charges noted in the table below. As these charges, including inventory, are a direct result of the decision to suspend further development of NGS-related instrument systems and are not related to external market factors, the impairment charges were recorded in the line item restructuring, acquisition, integration and other, net in the condensed consolidated statements of income (loss) due to the assets being deemed excess and no longer utilized due to the discontinued development and related actions discussed above.

In addition, we have initiated measures to:

- shift Commercial Operations activities into Business Areas;
- · transition manufacturing activities into a regional structure; and
- expand the scope of activities at QIAGEN Business Services (QBS) centers in Wroclaw, Poland and Manila, Philippines.

The following is a summary of the charges related to the 2019 restructuring program recorded during the nine months ended September 30, 2020 and cumulative program charges since September 30, 2019.

Consolidated Statement of Income Classification and Type of Charge (in thousands)	nonths ended aber 30, 2020	Cumulative charges since September 30, 2019		
Restructuring, acquisition, integration and other, net	_			
Personnel related ⁽¹⁾	\$ 330	\$	70,908	
Contract termination (reversal) expense ⁽¹⁾	(383)		41,716	
Consulting fees	1,167		11,317	
Accounts receivable ⁽²⁾	(622)		10,203	
Inventories	1,014		13,350	
Prepaid expenses and other current assets ⁽²⁾	 88		17,100	
	1,594		164,594	
Long-lived asset impairments				
Property, plant and equipment	1,034		99,506	
Intangible assets	 		40,301	
	1,034		139,807	
Other expense, net				
Equity method investment impairment	_		4,799	
Total	\$ 2,628	\$	309,200	

⁽¹⁾ For the year ended December 31, 2019, personnel related and contract termination costs include \$2,956 and \$15,676, respectively, due to related parties.

Of the total costs incurred, \$10.6 million and \$60.2 million are accrued as of September 30, 2020 and December 31, 2019, respectively, in accrued and other current liabilities in the accompanying condensed consolidated balance sheets as summarized in the following table that includes the cash components of the restructuring activity.

(in thousands)	Personnel	Related	Contract ermination	Cor	nsulting Fees	Total
Costs incurred in 2019	\$	44,640	\$ 42,099	\$	10,150	\$ 96,889
Payments	((17,272)	(18,294)		(2,162)	(37,728)
Foreign currency translation adjustment		631	493		(53)	1,071
Liability at December 31, 2019	\$	27,999	\$ 24,298	\$	7,935	\$ 60,232
Additional costs incurred in 2020		2,834	417		1,538	4,789
Release of excess accrual		(2,504)	(800)		(371)	(3,675)
Payments	((23,295)	(18,308)		(8,847)	(50,450)
Foreign currency translation adjustment		(71)	(202)		(14)	(287)
Liability at September 30, 2020	\$	4,963	\$ 5,405	\$	241	\$ 10,609

Future pre-tax costs between \$5 - \$10 million are expected to be incurred primarily related to personnel, consulting, contract termination and facilities including impacts to operating lease right-of-use assets before program completion in the first half of 2021.

5. Investments

The following discusses our marketable investments, non-marketable investments and the realized and unrealized gains and losses on these investments.

Marketable Equity Securities

A summary of our investments in marketable equity securities that have readily determinable fair values that are classified as available-for-sale follows below. These investments are reported at fair value with realized and unrealized gains and losses recorded in earnings.

⁽²⁾ For the year ended December 31, 2019, accounts receivable and prepaid expenses and other assets includes \$5,984 and \$2,270, respectively due from related parties.

(in thousands, except shares held)	As of September 30, 2020								
	OncoCyte Corporation (OncoCyte)	HTG Molecular Diagnostics, Inc (HTGM)			Oncimmune Holdings plc (Oncimmune)				
Shares held		88,101		833,333		560,416			
Cost basis		\$	\$	2,000	\$	_			
Fair value		\$ 122	\$	275	\$	1,039			
Total cumulative unrealized gain (loss)		S 122	\$	(1.725)	\$	1.039			

(in thousands, except shares held)		As of Decem	iber 3	ber 31, 2019			
		HTGM		Oncimmune			
Shares held		833,333		560,416			
Cost basis	\$	2,000	\$	_			
Fair value	\$	585	\$	285			
Total cumulative unrealized (loss) gain	\$	(1,415)	\$	285			

In the first quarter of 2020, as part of consideration received upon the sale of a non-marketable investment not accounted for under the equity method, we received 88,101 shares in OncoCyte. On the date of receipt, these shares had a fair value of \$0.2 million which is included in other long-term assets in the accompanying condensed consolidated balance sheet. In the first quarter of 2019, we received shares in Oncimmune in settlement of a zero-book value financial instrument held with a third party. On the date of receipt, these shares had a fair value of \$0.7 million which was recorded as a gain in other expense, net.

During the three months ended September 30, 2020 and 2019, total gains and losses recognized for the change in fair market value of all marketable equity securities totaled a loss of \$0.2 million and \$1.0 million, respectively, recognized in other expense, net in the accompanying condensed consolidated statements of income (loss). During the nine months ended September 30, 2020 and 2019, total gains and losses recognized for the change in fair market value of all marketable equity securities totaled a gain of \$0.3 million and a loss of \$1.8 million recognized in other expense, net in the accompanying condensed consolidated statements of income (loss).

Non-Marketable Investments

We have made strategic investments in certain privately-held companies without readily determinable market values.

Non-Marketable Investments Accounted for Under the Equity Method

As of September 30, 2020, we had total non-marketable investments that were accounted for as equity method investments of \$9.5 million, of which \$10.1 million is included in other long-term assets and \$0.5 million, where we are committed to fund losses, is included in other long-term liabilities in the accompanying condensed consolidated balance sheet. As of December 31, 2019, these investments totaled \$9.7 million, of which \$10.5 million is included in other long-term assets and \$0.8 million is included in other long-term liabilities.

Three of our equity method investments are variable interest entities and we are not considered the primary beneficiary as we do not hold the power to direct the activities that most significantly impact the economic performance of these entities and therefore, these investments are not consolidated. As of September 30, 2020, these investments had a total carrying value representing our maximum exposure to loss totaled \$2.6 million, of which \$3.2 million is included in other long-term assets and \$0.5 million is included in other long-term liabilities in the accompanying condensed consolidated balance sheet. As of December 31, 2019, these investments totaled \$1.2 million, of which \$1.9 million is included on other long-term assets and \$0.8 million is included in other long-term liabilities.

Non-Marketable Investments Not Accounted for Under the Equity Method

At September 30, 2020 and December 31, 2019, we had investments in non-publicly traded companies that do not have readily determinable fair values with carrying amounts that totaled \$27.7 million and \$70.8 million, respectively, which are included in other long-term assets in the accompanying condensed consolidated balance sheets. These investments are measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Changes resulting from impairment and observable prices changes are recognized in the statements of income (loss) during the period the change is identified. Of the total carrying amounts above, investments in variable interest entities totaled \$41.0 million as of December 31, 2019 and represented our maximum exposure to loss.

The changes in non-marketable investments not accounted for under the equity method during the nine months ended September 30, 2020 and 2019 are as follows:

(in thousands)	2020			2019
Balance at beginning of year	\$	70,849	\$	59,484
Cash investments in equity securities		106		211
Increases due to observable price changes		_		4,305
Sale of equity securities		(250)		
Loss on sale of equity securities		(2,250)		
Full acquisition of equity securities		(41,001)		
Foreign currency translation adjustments		282		(142)
Balance at end of period	\$	27,736	\$	63,858

During the third quarter of 2020, we acquired the remaining shares of NeuMoDx as further discussed in Note 3 "Acquisitions and Divestitures". We held a 19.9% investment in NeuMoDx with a book value of \$41.0 million prior to the acquisition.

In October 2020, Invitae Corporation ("Invitae"), a publicly traded on the New York Stock Exchange under NVTA ticker symbol, completed the acquisition of ArcherDX, Inc. ("ArcherDX"), a company in which as of September 30, 2020 we held an approximate 8% investment with a carrying value of \$19.9 million. In October 2020, in exchange for our shares in ArcherDX, we received cash of \$21.1 million and 2.4 million shares in Invitae. Per the terms of the acquisition, we have the right to receive an additional 2.1 million Invitae shares in the future upon achievement of certain milestones.

During the first quarter of 2020, we sold an investment in equity securities with a carrying amount of \$2.5 million in exchange for \$0.3 million including the shares in OncoCyte, as discussed above. A corresponding loss of \$2.3 million was recognized in other expense, net in the accompanying condensed consolidated statement of income (loss) for the nine months ended September 30, 2020. Also, we made additional investments of \$0.1 million in non-marketable investments not accounted for under the equity method during the nine months ended September 30, 2020.

During the second quarter of 2019, we recognized a gain of \$4.3 million in other expense, net in the accompanying consolidated statement of income (loss) due to upward adjustments resulting from an observable price change. This adjustment was due to an equity offering at a higher price from the issuer in an orderly transaction for a similar investment as those we hold. Also, we made additional investments of \$0.2 million in non-marketable investments not accounted for under the equity method during the nine months ended September 30, 2019.

Since adoption of ASU 2016-01 on January 1, 2018, cumulative upward adjustments in the carrying value of these investments have been recognized for observable price changes totaling \$20.9 million, of which \$11.7 million was attributable to NeuMoDx and \$8.5 million was attributable to ArcherDX, due to equity offerings at a higher price from the issuer in orderly transactions for identical or similar investments as those we hold.

6. Intangible Assets

The following sets forth the intangible assets by major asset class as of September 30, 2020 and December 31, 2019:

	September 30, 2020			December 31, 20			, 2019	
(in thousands)	Gross Carrying Amount		Accumulated Amortization		Gross Carrying Amount		Accumulate Amortizatio	
Amortized Intangible Assets:								
Patent and license rights	\$	285,381	\$	(184,261)	\$	320,406	\$	(216,554)
Developed technology		879,863		(367,863)		766,966		(346,085)
Customer base, non-compete agreements and trademarks		316,637		(231,828)		314,638		(213,881)
	\$	1,481,881	\$	(783,952)	\$	1,402,010	\$	(776,520)
Unamortized Intangible Assets:								
In-process research and development	\$	71,973			\$	6,944		
Goodwill		2,313,246				2,140,503		
	\$	2,385,219			\$	2,147,447		

The in-process research and development as of September 30, 2020 is associated to the acquisitions of NeuMoDx in 2020 and STAT-Dx in 2018. The estimated fair value of acquired in-process research and development projects which have not reached technological feasibility at the date of acquisition are capitalized and subsequently tested for impairment through completion of the development process, at which point the capitalized amounts are amortized over their estimated useful life. If a project is abandoned rather than completed, all capitalized amounts are written-off immediately.

Developed technology includes the acquired intangibles from NeuMoDx and the digital PCR asset from Formulatrix as discussed in Note 3 "Acquisitions and Divestitures" which are both being amortized over 10 years.

The changes in intangible assets in 2020 are summarized as follows:

(in thousands)	Iı	ntangibles	 Goodwill
Balance at December 31, 2019	\$	632,434	\$ 2,140,503
Business combinations		185,570	149,877
Purchase adjustments		_	3,382
Additions		22,919	_
Amortization		(75,860)	_
Disposals		(504)	_
Foreign currency translation adjustments		5,343	19,484
Balance at September 30, 2020	\$	769,902	\$ 2,313,246

Cash paid for purchases of intangible assets during the nine months ended September 30, 2020 totaled \$150.9 million, of which \$126.8 million is related to current year payments for assets that were accrued as of December 31, 2019, \$22.9 million of current year additions and \$1.2 million for prepayments recorded in other long-term assets in the accompanying condensed consolidated balance sheet.

The increase in the carrying amount of goodwill for the nine months ended September 30, 2020 resulted primarily from the acquisition of NeuMoDx and changes in foreign currency translation.

For the three- and nine-month periods ended September 30, 2020 and 2019, amortization expense on intangible assets totaled approximately \$27.5 million and \$75.9 million and \$29.8 million and \$96.4 million, respectively. Amortization of intangibles for the next five years is expected to be approximately:

Year	Annual Amortization (in millions)
2021	\$ 103.1
2022	\$ 89.7
2023	\$ 87.5
2024	\$ 83.8
2025	\$ 72.0

7. Debt

Our credit facilities available and undrawn at September 30, 2020 total €426.6 million (approximately \$499.5 million). This includes a €400.0 million syndicated multi-currency revolving credit facility expiring December 2021 of which no amounts were utilized at September 30, 2020 or at December 31, 2019, and three other lines of credit amounting to €26.6 million with no expiration date, none of which were utilized as of September 30, 2020 or as of December 31, 2019. The €400.0 million facility can be utilized in Euro, British pounds sterling, Swiss franc or U.S. dollar and bears interest of 0.4% to 1.2% above three months EURIBOR, or LIBOR in relation to any loan not in euro, and is offered with interest periods of one, two, three or six months. The commitment fee is calculated based on 35% of the applicable margin. The revolving facility agreement contains certain financial and non-financial covenants, including but not limited to, restrictions on the encumbrance of assets and the maintenance of certain financial ratios. We were in compliance with these covenants at September 30, 2020. The credit facilities are for general corporate purposes.

In September 2020, we entered into a short term line of credit that was drawn as of September 30, 2020 totaling \$58.5 million (€50.0 million) and is classified as a short term loan in the accompanying condensed consolidated balance sheet. During October 2020, this loan was repaid.

\$23.2 million of the 2021 Cash Convertible Notes were converted and repaid in the first nine months of 2020, per the terms and conditions of the contingent conversion period discussed further below. Of the repayments in 2020, \$0.2 million was repaid during the third quarter.

In 2019, we repaid \$506.4 million of long-term debt including \$430.0 million for the amount due for the 2019 Cash Convertible Notes, \$73.0 million for amounts due for the U.S. Private Placement and \$3.4 million for a portion of the 2021 Cash Convertible Notes which was converted during the contingent conversion period as discussed further below.

At September 30, 2020 and December 31, 2019, total current long-term debt, net of debt issuance costs of \$8.3 million and \$10.8 million, respectively, consists of the following:

(in thousands)	September 30, 2020		December 31, 201		
0.875% Senior Unsecured Cash Convertible Notes due 2021	\$	270,814	\$	285,244	
0.500% Senior Unsecured Cash Convertible Notes due 2023		357,927		347,995	
1.000% Senior Unsecured Cash Convertible Notes due 2024		425,368		413,272	
3.75% Series B Senior Notes due October 16, 2022		305,341		302,040	
3.90% Series C Senior Notes due October 16, 2024		26,953		26,944	
German Private Placement (Schuldschein)		343,113		330,857	
Total long-term debt	\$	1,729,516	\$	1,706,352	
Less: current portion		311,196		285,244	
Long-term portion	\$	1,418,320	\$	1,421,108	

At September 30, 2020, the \$311.2 million current portion of long-term debt includes the \$270.8 million 2021 Cash Convertible Notes (2021 Notes) and \$40.4 million of German Private Placement bond (Schuldschein), both due in the first quarter of 2021. At December 31, 2019, the 2021 Notes were included in the current portion of long-term debt as these were convertible pursuant to the indenture as discussed below.

The notes are all unsecured obligations that rank pari passu.

Cash Convertible Notes due 2019, 2021, 2023 and 2024

On March 19, 2014, we issued \$730.0 million aggregate principal amount of Cash Convertible Senior Notes in two tranches consisting of \$430.0 million due in 2019 (2019 Notes) and \$300.0 million due in 2021 (2021 Notes). The aggregate net proceeds of the 2019 Notes and 2021 Notes were \$680.7 million, after payment of the net cost of the Call Spread Overlay described below and transaction costs. Additionally, we used \$372.5 million of the net proceeds to repay other debt. During the first quarter of 2019, \$430.0 million of the 2019 Notes was paid at maturity and \$3.4 million of the 2021 Notes was redeemed. During the first nine months of 2020, \$23.2 million of the 2021 Notes was redeemed, of which \$0.2 million were redeemed in the third quarter.

On September 13, 2017, we issued \$400.0 million aggregate principal amount of Cash Convertible Senior Notes which is due in 2023 (2023 Notes). The net proceeds of the 2023 Notes were \$365.6 million, after payment of transaction costs and the net cost of the Call Spread Overlay described below.

On November 13, 2018, we issued \$500.0 million aggregate principal amount of Cash Convertible Senior Notes which is due in 2024 (2024 Notes). The net proceeds of the 2024 Notes were \$468.9 million, after payment of transaction costs and the net cost of the Call Spread Overlay described below.

We refer to the 2019 Notes, 2021 Notes 2023 Notes and 2024 Notes, collectively as the "Cash Convertible Notes."

Interest on the Cash Convertible Notes is payable semi-annually in arrears and will mature on the maturity date unless repurchased or converted with their terms prior to such date. The interest rate and corresponding maturity of each Note are summarized in the table below. The Cash Convertible Notes are solely convertible into cash in whole, but not in part, at the option of noteholders under the circumstances described below and during the contingent conversion periods as shown in the table below.

Cash Convertible Notes	Annual Interest Rate	Date of Interest Payments	Maturity Date	Contingent Conversion Period	Rate per \$200,000 Principal Amount
2021 Notes	0.875%	March 19 and September 19	March 19, 2021	April 29, 2014 to September 18, 2020	7,063.1647
2023 Notes	0.500%	March 13 and September 13	September 13, 2023	October 24, 2017 to March 13, 2023	4,829.7279
2024 Notes	1.000%	May 13 and November 13	November 13, 2024	December 24, 2018 to August 2, 2024	4,360.3098

Conversion

Additionally, conversion may occur at any time following a Contingent Conversion Period through the fifth business day immediately preceding the applicable maturity date.

Upon conversion, noteholders will receive an amount in cash equal to the Cash Settlement Amount, calculated as described below. The Cash Convertible Notes are not convertible into shares of our common stock or any other securities.

Noteholders may convert the Cash Convertible Notes into cash at their option at any time during the Contingent Conversion Periods described above only under the following circumstances (Contingent Conversion Conditions):

- if the last reported sale price of our common stock for at least 20-consecutive trading days during a period of 30-consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- if we undergo certain fundamental changes, including a change of control, as defined in the agreement;
- during the five-business day period immediately after any 10-consecutive trading day period in which the quoted price for the 2021 Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day;
- if parity event or trading price unavailability event, as the case maybe occurs for the 2023 Notes and 2024 Notes during the period of 10 days, including the first business day following the relevant trading price notification date.
- if we elect to distribute assets or property to all or substantially all the holders of our common stock and those assets or other property have a value of more than 25% of the average daily volume-weighted average trading price of our common stock for the prior 20-consecutive trading days;
- if we elect to redeem the Cash Convertible Notes; or
- if we experience certain customary events of default, including defaults under certain other indebtedness until such event has been cured or waived or the payment of the Notes have been accelerated.

The Contingent Conversion Conditions in the 2021 Notes, 2023 Notes and 2024 Notes noted above have been analyzed under ASC 815, *Derivatives and Hedging*, and, based on our analysis, we determined that each of the embedded features listed above are clearly and closely related to the 2021 Notes, 2023 Notes and 2024 Notes (i.e., the host contracts). As a result, pursuant to the accounting provisions of ASC 815, *Derivatives and Hedging*, these features noted above are not required to be bifurcated as separate instruments.

From January 1, 2020 through the close of business on September 18, 2020, the 2021 Notes were convertible pursuant to Section 12.01(b)(iv) of the indenture because the arithmetic mean of the last reported sales prices of our common stock, in each trading day in at least one 20-consecutive trading day period during the 30-consecutive trading day period ending on the last trading day of the preceding fiscal quarter, was greater than 130% of the conversion price in effect on such last trading day. Through September 30, 2020, we converted \$23.2 million of 2021 Notes conversion notices received during the year, of which \$0.2 million were converted during the third quarter. During the third quarter we received notice of conversion for an additional \$96.2 million of the 2021 Notes with conversion expected during the fourth quarter. The total number of shares issued in connection with the conversion of warrants will be calculated based on the terms and conditions of conversion based on the noticed received. Beginning on September 18, 2020, six months prior to maturity of the 2021 Notes, the contingent convertibility period ended and the bond is now freely convertible. Subsequent to the end of the contingent convertibility period, we received notice of conversion for \$1.0 million of the 2021 Notes that will be calculated based on the terms and conditions of the 2021 Notes for notices received after the end of the contingent convertibility period.

No Contingent Conversion Conditions were triggered for the 2023 Notes and 2024 Notes as of September 30, 2020.

Upon conversion, holders are entitled to a cash payment (Cash Settlement Amount) equal to the average of the conversion rate multiplied by the daily volume-weighted average trading price for our common stock over a 50-day period. The conversion rate is subject to adjustment in certain instances but will not be adjusted for any accrued and unpaid interest. In addition, following the occurrence of certain corporate events that may occur prior to the applicable maturity date, we may be required to pay a cash makewhole premium by increasing the conversion rate for any holder who elects to convert Cash Convertible Notes in connection with the occurrence of such a corporate event.

We may redeem the Cash Convertible Notes in their entirety at a price equal to 100% of the principal amount of the applicable Cash Convertible Notes plus accrued interest at any time when 20% or less of the aggregate principal amount of the applicable Cash Convertible Notes originally issued remain outstanding.

Because the Cash Convertible Notes contain an embedded cash conversion option, we have determined that the embedded cash conversion option is a derivative financial instrument, which is required to be separated from the Cash Convertible Notes and accounted for separately as a derivative liability, with changes in fair value reported in our consolidated statements of income (loss) until the cash conversion option transaction settles or expires. The initial fair value liability of the embedded cash conversion options for the 2019 Notes and 2021 Notes was \$51.2 million and \$54.0 million, respectively, \$74.5 million for the 2023 Notes, and \$98.5 million for the 2024 Notes, which simultaneously reduced the carrying value of the Cash Convertible Notes (effectively an original issuance discount). For further discussion of the derivative financial instruments relating to the Cash Convertible Notes, refer to Note 8 "Derivatives and Hedging".

As noted above, the reduced carrying value on the Cash Convertible Notes resulted in a debt discount that is amortized to the principal amount through the recognition of non-cash interest expense using the effective interest method over the expected life of the debt, which is five years for the 2019 Notes, seven years for the 2021 Notes, and six years for the 2023 Notes and 2024 Notes. This resulted

in our recognition of interest expense on the Cash Convertible Notes at an effective rate approximating what we would have incurred had nonconvertible debt with otherwise similar terms been issued. The effective interest rate of the 2019 Notes, 2021 Notes, 2023 Notes and 2024 Notes is 2.937%, 3.809%, 3.997% and 4.782%, respectively, which is imputed based on the amortization of the fair value of the embedded cash conversion option over the remaining term of the Cash Convertible Notes.

In connection with the issuance of the 2019 Notes and 2021 Notes, we incurred approximately \$13.1 million in transaction costs. We incurred approximately \$6.2 million and \$5.7 million in transaction costs for the 2023 Notes and 2024 Notes, respectively. Such costs have been allocated to the Cash Convertible Notes and deferred and are being amortized to interest expense over the terms of the Cash Convertible Notes using the effective interest method.

Interest expense related to the Cash Convertible Notes for the three and nine months ended September 30, 2020 and 2019 was comprised of the following:

		Three mo	onths ended			
	September 30,					
(in thousands)	2020			2019		
Coupon interest	\$	2,277	\$	2,399		
Amortization of original issuance discount		10,269		8,685		
Amortization of debt issuance costs		801		666		
Total interest expense related to the Cash Convertible Notes	\$ 13,347 \$					

	Nine months ended						
	September 30,						
(in thousands)	2020			2019			
Coupon interest	\$	7,018	\$	7,555			
Amortization of original issuance discount		28,591		28,187			
Amortization of debt issuance costs		2,208		2,342			
Total interest expense related to the Cash Convertible Notes	\$ 37,817 \$ 3						

Cash Convertible Notes Call Spread Overlay

Concurrent with the issuance of the Cash Convertible Notes, we entered into privately negotiated hedge transactions (Call Options) with, and issued warrants to purchase shares of our common stock (Warrants) to, certain financial institutions. We refer to the Call Options and Warrants collectively as the "Call Spread Overlay." The Call Options are intended to offset any cash payments payable by us in excess of the principal amount due upon any conversion of the Cash Convertible Notes. During 2014, we used \$105.2 million of the proceeds from the issuance of the 2019 Notes and 2021 Notes to pay for the Call Options, and simultaneously received \$69.4 million from the sale of the Warrants, for a net cash outlay of \$35.8 million for the Call Spread Overlay.

During 2017, we used \$73.7 million of the proceeds from the issuance of the 2023 Notes to pay for the premium for the Call Option, and simultaneously received \$45.3 million from the sale of Warrants, for a net cash outlay of \$28.3 million for the Call Spread Overlay. A total of \$0.4 million in issuance costs were paid in connection with the Warrant and the Call Option.

In November 2018, we used \$97.3 million of the proceeds from the issuance of the 2024 Notes to pay for the premium for the Call Option, and simultaneously received \$72.4 million from the sale of Warrants, for a net cash outlay of \$24.9 million for the Call Spread Overlay. A total of \$0.9 million in issuance costs were paid in connection with the Warrant and the Call Option.

The Call Options are derivative financial instruments and are discussed further in Note 8 "Derivatives and Hedging." The Warrants are equity instruments and are further discussed in Note 12 "Equity."

Aside from the initial payment of a premium of \$105.2 million (2019 Notes and 2021 Notes), \$73.7 million (2023 Notes), and \$97.3 million (2024 Notes) for the Call Options, we will not be required to make any cash payments under the Call Options, and will be entitled to receive an amount of cash, generally equal to the amount by which the market price per share of our common stock exceeds the exercise price of the Call Options during the relevant valuation period. The exercise price under the Call Options is initially equal to the conversion price of the Cash Convertible Notes.

During the first quarter of 2019, we received \$133.2 million in cash upon the exercise of the call options in connection with the repayment of the 2019 Notes. In the same transaction, we paid \$132.7 million for the intrinsic value of the 2019 Notes' embedded cash conversion option. Not all of the 2019 Note holders tendered the required conversion notice, and as a result the net effect of the cash paid and received of \$0.5 million was recognized as a gain in other expense, net in the accompanying condensed consolidated statement of income (loss) for the nine-month period ended September 30, 2019.

In connection with the early conversion of a portion of the 2021 Notes during 2020, we received \$12.3 million upon the exercise of the related call options. Also, we paid \$11.2 million for the intrinsic value of the 2021 Notes' embedded cash conversion option. During the three- and nine-month periods ended September 30, 2020, gains of \$0.3 million and \$1.0 million, respectively, were recognized in other expense, net in the accompanying condensed consolidated statement of income (loss) as a result of these early conversions.

In connection with the early conversion of a portion of 2021 Notes during 2019, we received \$1.5 million upon the exercise of the related call options. Also, we paid \$1.1 million for the intrinsic value of the 2021 Notes' embedded cash conversion option. As a result of these early conversions, a gain of \$0.4 million was recognized in other expense, net in the accompanying condensed consolidated statement of income (loss) for the nine-months ended September 30, 2019.

The Warrants that were issued with our Cash Convertible Notes, could have a dilutive effect to the extent that the price of our common stock exceeds the applicable strike price of the Warrants. For each Warrant that is exercised, we will deliver to the holder a number of shares of our common stock equal to the amount by which the settlement price exceeds the exercise price, plus cash in lieu of any fractional shares. We will not receive any proceeds if the Warrants are exercised.

U.S. Private Placement

In October 2012, we completed a private placement through the issuance of new senior unsecured notes at a total amount of \$400.0 million with a weighted average interest rate of 3.66% (settled on October 16, 2012). The notes were issued in three series: (1) \$73.0 million 7-year term due and paid in 2019 (3.19%); (2) \$300.0 million 10-year term due in October 16, 2022 (3.75%); and (3) \$27.0 million 12-year term due in October 16, 2024 (3.90%). We paid \$2.1 million in debt issuance costs which will be amortized through interest expense using the effective interest method over the lifetime of the notes. The note purchase agreement contains certain financial and non-financial covenants, including but not limited to, restrictions on priority indebtedness and the maintenance of certain financial ratios. We were in compliance with these covenants at September 30, 2020. During 2014, we entered into interest rate swaps, which effectively fixed the fair value of \$200.0 million of this debt, which was reduced to \$127.0 million following the 2019 \$73.0 million repayment. These interest rate swaps qualify for hedge accounting as fair value hedges as described in Note 8 "Derivatives and Hedging".

German Private Placement (Schuldschein)

In 2017, we completed a German private placement bond ("Schuldschein") which was issued in several tranches totaling \$331.1 million due in various periods through 2027. The Schuldschein consists of U.S. dollar and Euro denominated tranches. The Euro tranches are designated as a foreign currency non-derivative hedging instrument that qualifies as a net investment hedge as described in Note 8 "Derivatives and Hedging." Based on the spot rate method, the change in the carrying value of the Euro denominated tranches attributed to the net investment hedge as of September 30, 2020 totaled \$12.5 million of unrealized loss and is recorded in equity. We paid \$1.2 million in debt issuance costs which are being amortized through interest expense using the effective interest method over the lifetime of the notes. A summary of the tranches as of September 30, 2020 and December 31, 2019 is as follows:

			Carrying Value (i	(in thousands) as of				
Notional Amount	Interest Rate	Maturity Sep		December 31, 2019				
€11.5 million	Fixed 0.4%	March 2021	\$ 13,465	\$ 12,905				
€23.0 million	Floating EURIBOR + 0.4%	March 2021	26,917	25,811				
€21.5 million	Fixed 0.68%	October 2022	25,144	24,112				
€64.5 million	Floating EURIBOR + 0.5%	October 2022	75,432	72,335				
\$45.0 million	Floating LIBOR + 1.2%	October 2022	44,941	44,919				
€25.0 million	Floating EURIBOR + 0.5%	October 2022	29,225	28,026				
€64.0 million	Fixed 1.09%	June 2024	74,811	71,747				
€31.0 million	Floating EURIBOR + 0.7%	June 2024	36,237	34,753				
€14.5 million	Fixed 1.61%	June 2027	16,941	16,249				
			\$ 343,113	\$ 330,857				
	€11.5 million €23.0 million €21.5 million €64.5 million \$45.0 million €25.0 million €64.0 million	Notional AmountInterest Rate€11.5 millionFixed 0.4%€23.0 millionFloating EURIBOR + 0.4%€21.5 millionFixed 0.68%€64.5 millionFloating EURIBOR + 0.5%\$45.0 millionFloating LIBOR + 1.2%€25.0 millionFloating EURIBOR + 0.5%€64.0 millionFixed 1.09%€31.0 millionFloating EURIBOR + 0.7%€14.5 millionFixed 1.61%	€11.5 million Fixed 0.4% March 2021 €23.0 million Floating EURIBOR + 0.4% March 2021 €21.5 million Fixed 0.68% October 2022 €64.5 million Floating EURIBOR + 0.5% October 2022 \$45.0 million Floating LIBOR + 1.2% October 2022 €25.0 million Floating EURIBOR + 0.5% October 2022 €64.0 million Fixed 1.09% June 2024 €31.0 million Floating EURIBOR + 0.7% June 2024	Notional Amount Interest Rate Maturity September 30, 2020 €11.5 million Fixed 0.4% March 2021 \$ 13,465 €23.0 million Floating EURIBOR + 0.4% March 2021 26,917 €21.5 million Fixed 0.68% October 2022 25,144 €64.5 million Floating EURIBOR + 0.5% October 2022 75,432 \$45.0 million Floating LIBOR + 1.2% October 2022 44,941 €25.0 million Floating EURIBOR + 0.5% October 2022 29,225 €64.0 million Fixed 1.09% June 2024 74,811 €31.0 million Floating EURIBOR + 0.7% June 2024 36,237 €14.5 million Fixed 1.61% June 2027 16,941				

The financial markets regulators in the United Kingdom and the Eurozone have passed regulations that will become effective in 2021 under which LIBOR and EURIBOR in their current form will not be compliant. Market participants and regulators are working on establishing new interest rate benchmarks. While the outcome of this work is not clear yet, the Schuldschein, our syndicated loan facility, and our interest rate swaps continue to make reference to the current LIBOR and EURIBOR benchmark rates. These agreements contain language for the determination of interest rates in case the benchmark rate is not available. However, it appears likely that the agreements will need to be adjusted in line with still to be developed market practice once new benchmark rates become available.

8. Derivatives and Hedging

Objective and Strategy

In the ordinary course of business, we use derivative instruments, including swaps, forwards and/or options, to manage potential losses from foreign currency exposures and interest bearing assets or liabilities. The principal objective of such derivative instruments is to minimize the risks and/or costs associated with our global financial and operating activities. We do not utilize derivative or other financial instruments for trading or other speculative purposes. We recognize all derivatives as either assets or liabilities on the balance sheet on a gross basis, measure those instruments at fair value and recognize the change in fair value in earnings in the period of change, unless the derivative qualifies as an effective hedge that offsets certain exposures. We have agreed with almost all of our counterparties with whom we had entered into cross-currency swaps, interest rate swaps or foreign exchange contracts, to enter into bilateral collateralization contracts under which we will receive or provide cash collateral, as the case may be, for the net position with each of these counterparties. As of September 30, 2020, cash collateral positions consisted of \$16.5 million recorded in accrued and other current liabilities and \$7.0 million recorded in prepaid expenses and other current assets in the accompanying condensed consolidated balance sheets. As of December 31, 2019, we had cash collateral positions consisting of \$1.4 million recorded in accrued and other current liabilities and \$2.7 million recorded in prepaid expenses and other current assets in the accompanying condensed consolidated balance sheets.

Non-Derivative Hedging Instrument

Net Investment Hedge

In 2017, we entered into a foreign currency non-derivative hedging instrument that is designated and qualifies as net investment hedge. The objective of the hedge is to protect part of the net investment in foreign operations against adverse changes in the exchange rate between the Euro and the functional currency of the U.S. dollar. The non-derivative hedging instrument is the German private corporate bond ("Schuldschein") which was issued in the total amount of \$331.1 million as described in Note 7 "Debt." Of the \$331.1 million, which is held in both U.S. dollars and Euros, €255.0 million is designated as the hedging instrument against a portion of our Euro net investments in our foreign operations. The relative changes in both the hedged item and hedging instrument are calculated by applying the change in spot rate between two assessment dates against the respective notional amount. The effective portion of the hedge is recorded in the cumulative translation adjustment account within other accumulated comprehensive loss. Based on the spot rate method, the unrealized loss recorded in equity as of September 30, 2020 and December 31, 2019 is \$12.5 million and \$0.4 million, respectively. Since we are using the debt as the hedging instrument, which is also remeasured based on the spot rate method, there is no hedge ineffectiveness related to the net investment hedge as of September 30, 2020 and December 31, 2019.

Derivatives Designated as Hedging Instruments

Cash Flow Hedges

As of September 30, 2020 and December 31, 2019, we held derivative instruments that are designated and qualify as cash flow hedges, where the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive loss and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings. To date, we have not recorded any hedge ineffectiveness related to any cash-flow hedges in earnings. Based on their valuation as of September 30, 2020, we expect approximately \$6.4 million of derivative losses included in accumulated other comprehensive loss will be reclassified into income during the next 12 months. The cash flows derived from derivatives are classified in the condensed consolidated statements of cash flows in the same category as the condensed consolidated balance sheets account of the underlying item.

We use interest rate derivative contracts to align our portfolio of interest bearing assets and liabilities with our risk management objectives. During 2015, we entered into five cross currency interest rate swaps through 2025 for a total notional amount of €180.0 million which qualify for hedge accounting as cash flow hedges. We determined that no ineffectiveness exists related to these swaps. As of September 30, 2020 and December 31, 2019, interest receivables of \$0.4 million and \$1.5 million, respectively are recorded in prepaid expenses and other current assets in the accompanying consolidated balance sheets.

Fair Value Hedges

As of September 30, 2020 and December 31, 2019, we held derivative instruments that qualify for hedge accounting as fair value hedges. For derivative instruments that are designated and qualify as a fair value hedge, the effective portion of the gain or loss on the derivative is reflected in earnings. This effect on earnings is offset by the change in the fair value of the hedged item attributable to the risk being hedged that is also recorded in earnings. To date, there has been no ineffectiveness. The cash flows derived from derivatives are classified in the condensed consolidated statements of cash flows in the same category as the condensed consolidated balance sheets account of the underlying item.

We hold interest rate swaps which effectively fix the fair value of a portion of our fixed rate private placement debt and qualify for hedge accounting as fair value hedges. We determined that no ineffectiveness exists related to these swaps. As of September 30, 2020 and December 31, 2019, an interest receivables of \$1.3 million and \$0.1 million, respectively, are recorded in prepaid and other current assets in the accompanying condensed consolidated balance sheets.

Derivatives Not Designated as Hedging Instruments

Call Options

We entered into Call Options which, along with the sale of the Warrants, represent the Call Spread Overlay entered into in connection with the Cash Convertible Notes and which are more fully described in Note 7 "Debt." In these transactions, the Call Options are intended to address the equity price risk inherent in the cash conversion feature of each instrument by offsetting cash payments in excess of the principal amount due upon any conversion of the Cash Convertible Notes.

Aside from the initial payment of premiums for the Call Options, we will not be required to make any cash payments under the Call Options. We will, however, be entitled to receive under the terms of the Call Options, an amount of cash generally equal to the amount by which the market price per share of our common stock exceeds the exercise price of the Call Options during the relevant valuation period. The exercise price under the Call Options is equal to the conversion price of the Cash Convertible Notes.

The Call Options, for which our common stock is the underlying security, are derivative assets that requires mark-to-market accounting treatment due to the cash settlement features until the Call Options settle or expire. The Call Options are measured and reported at fair value on a recurring basis, within Level 2 of the fair value hierarchy. For further discussion of the inputs used to determine the fair value of the Call Options, refer to Note 9 "Financial Instruments and Fair Value Measurements."

The Call Options do not qualify for hedge accounting treatment. Therefore, the change in fair value of these instruments is recognized immediately in our condensed consolidated statements of income (loss) in other expense, net. Because the terms of the Call Options are substantially similar to those of the Cash Convertible Notes' embedded cash conversion option, discussed below, we expect the effect on earnings from the two derivative instruments to mostly offset each other.

Cash Convertible Notes Embedded Cash Conversion Option

The embedded cash conversion option within the Cash Convertible Notes discussed in Note 7 "Debt" is required to be separated from the Cash Convertible Notes and accounted for separately as a derivative liability, with changes in fair value reported in our condensed consolidated statements of income (loss) in other expense, net until the cash conversion option settles or expires. The embedded cash conversion option is measured and reported at fair value on a recurring basis, within Level 2 of the fair value hierarchy. For further discussion of the inputs used to determine the fair value of the embedded cash conversion option, refer to Note 9 "Financial Instruments and Fair Value Measurements."

Embedded Conversion Option

During 2017, we purchased a convertible note for \$3.0 million from a publicly listed company considered a related party. During the second quarter of 2020, \$3.2 million was collected including the principal including accrued interest. The embedded conversion option within the convertible note was required to be separated from the convertible note and accounted for separately as a derivative liability, with changes in fair value reported in our condensed consolidated statements of income (loss) in other expense, net. The embedded cash conversion option was measured and reported at fair value on a recurring basis, within Level 2 of the fair value hierarchy as of December 31, 2019. For further discussion of the inputs used to determine the fair value of the embedded cash conversion option, refer to Note 9 "Financial Instruments and Fair Value Measurements".

Foreign Currency Derivatives

As a globally active enterprise, we are subject to risks associated with fluctuations in foreign currencies in our ordinary operations. This includes foreign currency-denominated receivables, payables, debt, and other balance sheet positions including intercompany items. We manage balance sheet exposure on a group-wide basis using foreign exchange forward contracts, foreign exchange options and cross-currency swaps.

We are party to various foreign exchange forward, option and swap arrangements which had, at September 30, 2020 and December 31, 2019, aggregate notional values of \$1.7 billion and \$701.4 million, respectively which expire at various dates through February 2021. The transactions have been entered into to offset the effects from short-term balance sheet exposure to foreign currency exchange risk. Changes in the fair value of these arrangements have been recognized in other expense, net.

Fair Values of Derivative Instruments

The following table summarizes the fair value amounts of derivative instruments reported in the condensed consolidated balance sheets as of September 30, 2020 and December 31, 2019:

		As of September 30, 2020				As of Decem	r 31, 2019	
(in thousands)	_	Current Long-Term Asset Asset			Current Asset		Long-Term Asset	
Assets:								
Derivative instruments designated as hedges								
Interest rate contracts - fair value hedge (1)	\$	<u> </u>	\$	5,661	\$	<u> </u>	\$	2,474
Total derivative instruments designated as hedges	\$		\$	5,661	\$		\$	2,474
Undesignated derivative instruments								
Call options	\$	231,289	\$	339,102	\$	101,179	\$	189,792
Foreign exchange contracts and options		31,263		_		6,689		_
Total undesignated derivative instruments	\$	262,552	\$	339,102	\$	107,868	\$	189,792
Total Derivative Assets	\$	262,552	\$	344,763	\$	107,868	\$	192,266
(in thousands)		As of Septem Current Liability		30, 2020 ong-Term Liability		As of Decem Current Liability	L	31, 2019 ong-Term Liability
Liabilities:	_	Liability	_	Liability		Liability		Liability
Derivative instruments designated as hedges								
Derivative instruments designated as hedges Interest rate contracts - cash flow hedge (1)	\$	_	\$	(3,958)	\$	_	\$	(6,027)
5	<u>\$</u>	 	<u>\$</u>	(3,958)	_	 	\$ \$	(6,027) (6,027)
Interest rate contracts - cash flow hedge (1) Total derivative instruments designated as hedges		<u>–</u> –	_		_	<u>–</u> –	_	
Interest rate contracts - cash flow hedge (1)		(231,513)	\$		\$		\$	
Interest rate contracts - cash flow hedge (1) Total derivative instruments designated as hedges Undesignated derivative instruments	\$		\$	(3,958)	\$	— — (101,361) (1,814)	\$	(6,027)
Interest rate contracts - cash flow hedge (1) Total derivative instruments designated as hedges Undesignated derivative instruments Cash convertible notes embedded conversion option	\$	(/ /	\$	(3,958)	\$	(/ /	\$	(6,027)
Interest rate contracts - cash flow hedge (1) Total derivative instruments designated as hedges Undesignated derivative instruments Cash convertible notes embedded conversion option Foreign exchange contracts and options	\$	(19,825)	\$ \$ \$	(3,958)	\$	(1,814)	\$	(6,027) (190,902)

 $^{^{(1)}}$ The fair value amounts for the interest rate contracts do not include accrued interest.

Gains and Losses on Derivative Instruments

The following tables summarize the gains and losses on derivative instruments for the three- and nine-month periods ended September 30, 2020 and 2019:

	Three months ended				Nine months ended					
		Septem	ber 30	,		Septem	30,			
	2020			2020 2019				2019		
(in thousands)	Otl	her expense, net	Othe	r expense, net	Other expense, net		Oth	ner expense, net		
Total amounts presented in the Condensed Consolidated Statements of Income (Loss) in which the effects of cash flow and fair value hedges are recorded	\$			\$ (267)		(6,961)	\$	(1,514)	\$	(2,642)
Gains (Losses) on Derivatives in Cash Flow Hedges										
Interest rate contracts										
Amount of gain (loss) reclassified from accumulated other comprehensive loss	\$	9,180	\$	(8,838)	\$	8,532	\$	(10,098)		
Amounts excluded from effectiveness testing		_	_		_			_		
Gains (Losses) on Derivatives in Fair Value Hedges										
Interest rate contracts										
Hedged item		626		(628)		(3,186)		(4,394)		
Derivatives designated as hedging instruments		(626)	628		3,186			4,394		
Gains (Losses) Derivatives Not Designated as Hedging Instruments										
Embedded conversion option		_		_		_		(349)		
Call options		235,092		(143,270)		279,421		(207,148)		
Cash convertible notes embedded cash conversion option		(235,777)		144,160		(280,765)		209,895		
Foreign exchange contracts and options		20,411		(551)		4,408		(1,740)		
Total gain (loss)	\$	28,906	\$	(8,499)	\$	11,596	\$	(9,440)		

Balance Sheet Line Items in which the Hedged Item is Included

The following tables summarizes the balance sheet line items in which the hedged item is included as of September 30, 2020 and December 31, 2019:

		nt of the Hedged iabilities)	Cumulative Amount of Fair Value Hedging Adjustment Included in the Carrying Amount of Hedged Assets (Liabilities)			
(in thousands)	September 30, 2020	December 31, 2019	September 30, 2020	December 31, 2019		
Long-term debt	\$ (132,525)	\$ (129,290)	\$ 5,661	\$ 2,474		

9. Financial Instruments and Fair Value Measurements

Assets and liabilities are measured at fair value according to a three-tier fair value hierarchy which prioritizes the inputs used in measuring fair value as follows:

- Level 1. Observable inputs, such as quoted prices in active markets;
- Level 2. Inputs, other than the quoted price in active markets, that are observable either directly or indirectly; and
- Level 3. Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Our assets and liabilities measured at fair value on a recurring basis consist of short-term investments, which are classified in Level 2 of the fair value hierarchy, marketable securities discussed in Note 5 "Investments", which are classified in Level 1, derivative contracts used to hedge currency and interest rate risk and derivative financial instruments entered into in connection with the Cash

Convertible Notes discussed in Note 7 "Debt", which are classified in Level 2 of the fair value hierarchy, and contingent consideration accruals and non-marketable equity security investments which are both classified in Level 3 of the fair value hierarchy, and are shown in the tables below. There were no transfers between levels during the nine months ended September 30, 2020.

In determining fair value for Level 2 instruments, we apply a market approach, using quoted active market prices relevant to the particular instrument under valuation, considering the credit risk of both the respective counterparty to the contract and the Company. To determine our credit risk, we estimated our credit rating by benchmarking the price of outstanding debt to publicly-available comparable data from rated companies. Using the estimated rating, our credit risk was quantified by reference to publicly-traded debt with a corresponding rating. The Level 2 derivative financial instruments include the Call Options asset and the embedded conversion option liability. See Note 7 "Debt" and Note 8 "Derivatives and Hedging" for further information. The derivatives are not actively traded and are valued based on an option pricing model that uses observable market data for inputs. Significant market data inputs used to determine fair values included our common stock price, the risk-free interest rate, and the implied volatility of our common stock. The Call Options asset and the embedded cash conversion option liability were designed with the intent that changes in their fair values would substantially offset, with limited net impact to our earnings. Therefore, the sensitivity of changes in the unobservable inputs to the option pricing model for such instruments is substantially mitigated.

Our Level 3 instruments include non-marketable equity security investments for which we estimate the value based on valuation methods using the observable transaction price at the transaction date and other unobservable inputs. These investments are carried at fair value or under the measurement alternative. Under the measurement alternative, the carrying value is measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Adjustments are determined primarily based on a market approach as of the transaction date.

Our Level 3 instruments also include contingent consideration liabilities. We value contingent consideration liabilities using unobservable inputs, applying the income approach, such as the discounted cash flow technique, or the probability-weighted scenario method. Contingent consideration arrangements obligate us to pay the sellers of an acquired entity if specified future events occur or conditions are met such as the achievement of technological or revenue milestones. We use various key assumptions, such as the probability of achievement of the milestones (0% to 100%) and the discount rate (between 2.4% and 6.9%), to represent the non-performing risk factors and time value when applying the income approach. We regularly review the fair value of the contingent consideration, and reflect any change in the accrual in the condensed consolidated statements of income in the line items commensurate with the underlying nature of milestone arrangements.

The following table presents our fair value hierarchy for our financial assets and liabilities measured at fair value on a recurring basis:

	As of September 30, 2020					As of December 31, 2019					
(in thousands)	I	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total		
Assets:											
Short-term investments	\$	_	\$ 36,602	\$ —	\$ 36,602	\$ —	\$ 129,586	\$ —	\$ 129,586		
Marketable equity securities		1,436	_	_	1,436	870	_	_	870		
Non-marketable equity securities			_	27,736	27,736		_	70,849	70,849		
Call option		_	570,391	_	570,391	_	290,971	_	290,971		
Foreign exchange contracts and options			31,263	_	31,263	_	6,689	_	6,689		
Interest rate contracts			5,661		5,661		2,474		2,474		
	\$	1,436	\$ 643,917	\$ 27,736	\$ 673,089	\$ 870	\$ 429,720	\$ 70,849	\$ 501,439		
Liabilities:											
Foreign exchange contracts and options	\$		\$ (19,825)	s —	\$ (19,825)	s —	\$ (1,814)	\$ —	\$ (1,814)		
Interest rate contracts		_	(3,958)	_	(3,958)	_	(6,027)	_	(6,027)		
Cash conversion option			(573,029)	_	(573,029)	_	(292,263)	_	(292,263)		
Contingent consideration				(45,769)	(45,769)		_	(162,160)	(162,160)		
	\$		\$(596,812)	\$ (45,769)	\$(642,581)	\$ —	\$(300,104)	\$(162,160)	\$(462,264)		

Refer to Note 5 "Investments" for the change in non-marketable equity securities with Level 3 inputs during the nine-month periods ended September 30, 2020 and 2019. For contingent consideration liabilities with Level 3 inputs, the following table summarizes the activity for the nine-month period ended September 30, 2020:

(in thousands)	2020
Balance at beginning of year	\$ (162,160)
Additions	(2,859)
Payments	119,250
Balance at end of period	\$ (45,769)

As of September 30, 2020, of the total \$45.8 million accrued for contingent consideration, \$30.5 million is included in accrued and other current liabilities and \$15.3 million is included in other long-term liabilities in the accompanying condensed consolidated balance sheet. For the nine-month period ended September 30, 2020, the \$2.9 million of additions is related to the time value increases of existing contingent consideration liabilities, primarily the asset acquisition of Formulatrix discussed in Note 3 "Acquisitions and Divestitures".

The carrying values of financial instruments, including cash and cash equivalents, accounts receivable, accounts payable and other accrued liabilities, approximate their fair values due to their short-term maturities. The estimated fair value of long-term debt as disclosed in Note 7 "Debt" was based on current interest rates for similar types of borrowings. The estimated fair values may not represent actual values of the financial instruments that could be realized as of the balance sheet date or that will be realized in the future.

The table below presents the carrying values and the estimated fair values of financial instruments not presented in the tables above.

	As o	of September 30,		As of December 31, 2019					
(in thousands)	Carrying Amount	Level 1		Level 2	Carrying Amount	Level 1		Level 2	
Long-term debt including current portion:									
Cash convertible notes	\$ 1,054,109	\$ 1,658,924	\$	_	\$ 1,046,511	\$ 1,296,334	\$	_	
U.S. private placement	332,294			339,222	328,984	_		329,157	
German private placement	343,113	_		347,592	330,857	_		334,371	
	\$ 1,729,516	\$ 1,658,924	\$	686,814	\$ 1,706,352	\$ 1,296,334	\$	663,528	

The fair values of the financial instruments presented in the tables above were determined as follows:

Cash Convertible Notes: Fair value is based on an estimation using available over-the-counter market information on the Cash Convertible Notes due in 2021, 2023 and 2024.

U.S. Private Placement: Fair value of the outstanding bonds is based on an estimation using the changes in the U.S. Treasury rates.

German Private Placement: Fair value is based on an estimation using changes in the euro swap rates.

The estimated fair values may not represent actual values of the financial instruments that could be realized as of the balance sheet date or that will be realized in the future. There were no adjustments in the three- and nine-month periods ended September 30, 2020 and 2019 for nonfinancial assets or liabilities required to be measured at fair value on a nonrecurring basis.

10. Income Taxes

The quarterly provision for income taxes is based upon the estimated annual effective tax rates for the year, applied to the current period ordinary income before tax plus the tax effect of any discrete items. Our operating subsidiaries are exposed to statutory tax rates ranging from zero to 35%. Fluctuations in the distribution of pre-tax (loss) income among our operating subsidiaries can lead to fluctuations of the effective tax rate in the consolidated financial statements. In the third quarters of 2020 and 2019, our effective tax rates were 39.4% and 29.2%, respectively. In the nine-month periods ended September 30, 2020 and 2019, the effective tax rates were 19.9% and 41.1% respectively. The effective tax rate in 2020 reflects higher operating income in the current year due to the significant demand for solutions used in COVID-19 testing while the 2019 effective tax rate reflects the restructuring charges incurred during the third quarter of 2019. Additionally, we record partial tax exemptions on foreign income primarily derived from operations in Germany, the Netherlands and Singapore. These foreign tax benefits are due to a combination of favorable tax laws, rules, rulings, and exemptions in these jurisdictions, including intercompany foreign royalty income in Germany which is statutorily exempt from trade tax. Further, we have intercompany financing arrangements in which the intercompany income is nontaxable or partially exempt. During 2020, we have intercompany financing arrangements through Dubai, and through mid-2019 had arrangements through Luxembourg and Ireland.

We assess uncertain tax positions in accordance with ASC 740 (ASC 740-10 *Accounting for Uncertainties in Tax*). At September 30, 2020, our gross unrecognized tax benefits totaled approximately \$84.1 million which, if recognized, would favorably impact our effective tax rate in the periods in which they are recognized. It is reasonably possible that approximately \$32.5 million of the unrecognized tax benefits may be released during the next 12 months due to lapse of statutes of limitations or settlements with tax authorities. However, various events could cause our current expectations to change in the future. While we believe our allowance for all income tax contingencies are adequate, the final resolution of these issues, if unfavorable, could have a material impact on the consolidated financial statements. We cannot reasonably estimate the range of the potential outcomes of these matters.

We conduct business globally and, as a result, file numerous consolidated and separate income tax returns in the Netherlands, Germany, and the U.S. federal jurisdiction, as well as in various other state and foreign jurisdictions. In the normal course of business, we are subject to examination by taxing authorities throughout the world. Tax years in the Netherlands are potentially open back to 2008 for income tax examinations by tax authorities. The U.S. consolidated group is open to Federal and most state income tax examinations by the tax authorities beginning with the year ending December 31, 2017 through the current period. Our subsidiaries, with few exceptions, are no longer open to income tax examinations by tax authorities for years before 2016. The German tax authorities have commenced an audit for the 2014-2016 tax years.

As of September 30, 2020, residual Netherlands income taxes have not been provided on the undistributed earnings of the majority of our foreign subsidiaries as these earnings are considered to be either permanently reinvested or can be repatriated tax free under the Dutch participation exemption.

11. Inventories

The components of inventories consist of the following as of September 30, 2020 and December 31, 2019:

(in thousands)	Sep	September 30, 2020		cember 31, 2019
Raw materials	\$	59,138	\$	26,077
Work in process		67,890		45,729
Finished goods		127,614		98,898
Total inventories, net	\$	254,642	\$	170,704

12. Equity

Issuance and Conversion of Warrants

In connection with the issuance of the Cash Convertible Notes as described in Note 7 "Debt", we issued Warrants as summarized in the table below. The number of warrants and exercise prices are subject to customary adjustments under certain circumstances. The proceeds, net of issuance costs, from the sale of the Warrants are included as additional paid in capital in the accompanying consolidated balance sheets.

Cash convertible notes	Issued on	Number of share warrants (in millions)	Exercise price per share	Proceeds from issuance of warrants, net of issuance costs (in millions)	Warrants expire over a period of 50 trading days beginning on
2019	March 19, 2014	15.2	\$32.0560	\$40.6	December 27, 2018
2021	March 19, 2014	10.6	\$32.0560	\$28.3	December 29, 2020
2023	September 13, 2017	9.7	\$50.9664	\$45.3	June 26, 2023
2024	November 13, 2018	10.9	\$52.1639	\$72.4	August 27, 2024

The Warrants are exercisable only upon expiration. For each Warrant that is exercised, we will deliver to the holder a number of shares of our common stock equal to the amount by which the settlement price exceeds the exercise price, divided by the settlement price, plus cash in lieu of any fractional shares. The Warrants could separately have a dilutive effect on shares of our common stock to the extent that the market value per share of our common stock exceeds the applicable exercise price of the Warrants (as measured under the terms of the Warrants).

During the three- and nine-month periods ended September 30, 2020, 0.3 million common shares were issued in connection with the early conversion of 0.8 million warrants related to the 2021 Notes which resulted in a \$3.0 million decrease to additional paid in capital.

During 2019, 2.1 million common shares were issued in connection with the conversion of the 15.2 million warrants related to the 2019 Notes which resulted in a \$31.1 million decrease to additional paid in capital, a \$37.7 million decrease in retained earnings, a decrease of 68.8 million in treasury shares and an approximately \$4 thousand cash payment for fractional shares.

Share Repurchase Programs

On May 6, 2019, we announced our sixth share repurchase program of up to \$100 million of our common shares. No shares were repurchased under this program.

On January 31, 2018, we announced our fifth share repurchase program of up to \$200 million of our common shares. During the ninemonth period ended September 30, 2019, we repurchased 2.0 million QIAGEN shares for \$74.5 million (including transaction costs), bringing the total shares repurchased under this program to 4.9 million for \$179.1 million (including transaction costs). This program ended on June 30, 2019.

The cost of repurchased shares is included in treasury stock and reported as a reduction in total equity when a repurchase occurs. Repurchased shares will be held in treasury in order to satisfy various obligations, which include exchangeable debt instruments, warrants and employee share-based remuneration plans.

Accumulated Other Comprehensive Loss

The following table is a summary of the components of accumulated other comprehensive loss as of September 30, 2020 and December 31, 2019:

(in thousands)	Se	September 30, 2020		ecember 31, 2019
Net unrealized loss on hedging contracts, net of tax	\$	(6,073)	\$	(2,289)
Net unrealized loss on pension, net of tax		(561)		(561)
Foreign currency effects from intercompany long-term investment transactions, net of tax of \$10.8 million and \$9.7 million in 2020 and 2019, respectively		(26,349)		(22,587)
Foreign currency translation adjustments		(259,951)		(284,182)
Accumulated other comprehensive loss	\$	(292,934)	\$	(309,619)

13. Revenue

Contract Estimates

The majority of our revenue is derived from contracts (i) with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount in which we have the right to invoice as product is delivered. We have elected the practical expedient not to disclose the value of remaining performance obligations associated with these types of contracts.

However, we have certain companion diagnostic co-development contracts to provide research and development activities in which our performance obligations extend over multiple years. As of September 30, 2020, we had \$26.2 million of remaining performance obligations for which the transaction price is not constrained related to these contracts which we expect to recognize over the next 12 to 18 months.

Revenue expected to be recognized in any future year related to remaining performance obligations, excluding revenue pertaining to contracts that have an original expected duration of one year or less, contracts where revenue is recognized as invoiced and contracts with variable consideration related to undelivered performance obligations, is not material.

Contract Balances

The timing of revenue recognition, billings and cash collections can result in billed accounts receivable, unbilled receivables (contract assets), and customer advances and deposits (contract liabilities) in the condensed consolidated balance sheet.

Contract assets as of September 30, 2020 and December 31, 2019 totaled \$9.1 million and \$5.5 million, respectively, and are included in prepaid expenses and other current assets in the accompanying condensed consolidated balance sheets and relate to the companion diagnostic co-development contracts discussed above.

Contract liabilities primarily relate to non-cancellable advances or deposits received from customers before revenue is recognized and is primarily related to instrument service and software subscription revenue. As of September 30, 2020 and December 31, 2019, contract liabilities totaled \$61.1 million and \$56.2 million, respectively, of which \$52.3 million and \$48.5 million is included in accrued and other current liabilities, respectively, and \$8.8 million and \$7.7 million in included in other long-term liabilities, respectively. During the three and nine months ended September 30, 2020 and 2019, we satisfied the associated performance obligations and recognized revenue of \$13.7 million and \$45.8 million, and \$8.9 million and \$42.8 million, respectively, related to advance customer payments previously received.

Disaggregation of Revenue

We disaggregate our revenue based on product categories and customer class and geographically as shown in the tables below:

	Three Mon	ths E	nded Septeml	ber 3	0, 2020	Three Months Ended September 30, 2					0, 2019
(in thousands)	nsumables nd related	In	struments		Total		onsumables and related	In	struments		Total
Molecular Diagnostics	\$ 206,497	\$	30,680	\$	237,177	\$	166,881	\$	16,344	\$	183,225
Life Sciences	213,453		33,133		246,586		175,227		24,234		199,461
Academia / Applied Testing	136,559		23,165		159,724		106,289		15,980		122,269
Pharma	 76,894		9,968		86,862		68,938		8,254		77,192
Total	\$ 419,950	\$	63,813	\$	483,763	\$	342,108	\$	40,578	\$	382,686

	Nine Mont	hs E	nded Septemb	er 3	0, 2020	Nine Months Ended September 30, 20:), 2019	
(in thousands)	onsumables nd related	Iı	nstruments		Total		onsumables and related	In	struments		Total
Molecular Diagnostics	\$ 524,204	\$	92,899	\$	617,103	\$	487,662	\$	51,619	\$	539,281
Life Sciences	597,143		84,866		682,009		502,186		71,485		573,671
Academia / Applied Testing	386,285		60,921		447,206		301,066		48,597		349,663
Pharma	 210,858		23,945		234,803		201,120		22,888		224,008
Total	\$ 1,121,347	\$	177,765	\$	1,299,112	\$	989,848	\$	123,104	\$	1,112,952

	Three Months Ended September 30,					line Months En		
(in thousands)	2020			2019		2020		2019
Americas	\$	227,327	\$	192,194	\$	578,383	\$	542,433
Europe, Middle East and Africa		164,095		114,278		457,003		341,196
Asia Pacific and Rest of World		92,341		76,214		263,726		229,323
Total	\$	483,763	\$	382,686	\$	1,299,112	\$	1,112,952

14. Earnings per Common Share

We present basic and diluted earnings per share. Basic earnings per share is calculated by dividing the net income by the weighted average number of common shares outstanding. Diluted earnings per share reflect the potential dilution that would occur if all "in the money" securities to issue common shares were exercised. Due to the net loss for the three- and nine-month periods ended September 30, 2019, stock options and restricted stock units representing approximately 4.3 million weighted-average shares of common stock and warrants representing 1.2 million and 2.0 million shares of common stock, respectively, were excluded from the computation of diluted net loss because the impact would have been antidilutive.

The following table for the three- and nine-month periods ended September 30, 2020 and 2019 summarizes the information used to compute earnings (loss) per common share:

	Three months ended				
		Septen	ıber :	30,	
(in thousands, except per share data)		2020		2019	
Net income (loss)	\$	16,910	\$	(160,635)	
Weighted average number of common shares used to compute basic net income per common share		228,733		226,520	
Dilutive effect of stock options and restricted stock units		3,580			
Dilutive effect of outstanding warrants		3,472		_	
Weighted average number of common shares used to compute diluted net income per common share		235,785		226,520	
Outstanding options and awards having no dilutive effect, not included in above calculation				193	
Outstanding warrants having no dilutive effect, not included in above calculation		26,924		29,922	
Basic earnings (loss) per common share	\$	0.07	\$	(0.71)	
Diluted earnings (loss) per common share	\$	0.07	\$	(0.71)	

	Nine months ended				
		Septen	ıber (30,	
(in thousands, except per share data)		2020		2019	
Net income (loss)	\$	146,503	\$	(86,388)	
Weighted average number of common shares used to compute basic net income per common share		228,378		226,447	
Dilutive effect of stock options and restricted stock units		3,174		_	
Dilutive effect of outstanding warrants		2,456		_	
Weighted average number of common shares used to compute diluted net income per common share		234,008		226,447	
Outstanding options and awards having no dilutive effect, not included in above calculation		15		140	
Outstanding warrants having no dilutive effect, not included in above calculation		28,398		34,064	
Basic earnings (loss) per common share	\$	0.64	\$	(0.38)	
Diluted earnings (loss) per common share	\$	0.63	\$	(0.38)	

15. Commitments and Contingencies

Contingent Consideration Commitments

Pursuant to the purchase agreements for certain acquisitions and other contractual arrangements, we could be required to make additional contingent cash payments totaling up to \$49.1 million based on the achievement of certain revenue and operating results milestones as follows:

(in thousands)	Contingent Cash Payments
2020	\$ 22,540
2021	8,850
2022	17,700
	\$ 49,090

Of the \$49.1 million total contingent obligation as discussed further in Note 9 "Financial Instruments and Fair Value Measurements," we have assessed the fair value at September 30, 2020 to be \$45.8 million, of which \$30.5 million is included in accrued and other current liabilities and \$15.3 million is included in other long-term liabilities in the accompanying condensed consolidated balance sheet.

Contingencies

In the ordinary course of business, we provide a warranty to customers that our products are free of defects and will conform to published specifications. Generally, the applicable product warranty period is one year from the date of delivery of the product to the customer or of site acceptance, if required. Additionally, we typically provide limited warranties with respect to our services. From time to time, we also make other warranties to customers, including warranties that our products are manufactured in accordance with applicable laws and not in violation of third-party rights. We provide for estimated warranty costs at the time of the product sale. We believe our warranty reserves of \$4.5 million and \$3.1 million as of September 30, 2020 and December 31, 2019, respectively, appropriately reflect the estimated cost of such warranty obligations.

Litigation

From time to time, we may be party to legal proceedings incidental to our business. As of September 30, 2020, certain claims, suits or legal proceedings arising out of the normal course of business have been filed or were pending against QIAGEN or our subsidiaries. These matters have arisen in the ordinary course and conduct of business, as well as through acquisition. Although it is not possible to predict the outcome of such litigation, we assess the degree of probability and evaluate the reasonably possible losses that we could incur as a result of these matters. We accrue for any estimated loss when it is probable that a liability has been incurred and the amount of probable loss can be estimated.

Litigation accruals recorded in accrued and other current liabilities totaled \$5.1 million and \$0.8 million as of September 30, 2020 and December 31, 2019, respectively. The estimated amount of a range of possible losses as of September 30, 2020, is between \$4.5 million and \$16.0 million. During the three and nine-month periods ended September 30, 2020, \$0.3 million was paid related to previous matters. Based on the facts known to QIAGEN and after consultation with legal counsel, management believes that such litigation will not have a material adverse effect on our financial position or results of operations above the amounts accrued. However, the outcome of these matters is ultimately uncertain, thus any settlements or judgments against us in excess of management's expectations could have a material adverse effect on our financial position, results of operations or cash flows.

16. Share-Based Compensation

Stock Units

Stock units represent rights to receive our common shares at a future date and include restricted stock units which are subject to time-based vesting only and performance stock units which include performance conditions in addition to time-based vesting. Shares are issued on the vesting dates net of the applicable statutory tax withholding to be paid by us on behalf of our employees. As a result, fewer shares are issued than the number of stock units outstanding. We record a liability for the tax withholding to be paid by us as a reduction to treasury shares.

During the three and three- and nine-month periods ended September 30, 2020, we granted 5.5 thousand and 1.0 million stock awards compared to 13.0 thousand and 1.4 million stock awards granted for the three- and nine-month periods ended September 30, 2019.

At September 30, 2020, there was \$78.7 million remaining in unrecognized compensation expense, less estimated forfeitures, related to these awards which will be recognized over a weighted-average period of 2.46 years.

Share-Based Compensation Expense

Total share-based compensation expense decreased following the 2019 restructuring discussed in Note 4 "Restructuring and Impairments" and for the three- and nine-month periods ended September 30, 2020 and 2019 was comprised of the following:

	Three months ended						
	September 30,						
(in thousands)	2020			2019			
Cost of sales	\$	1,434	\$	643			
Research and development		2,694		1,385			
Sales and marketing		5,717		579			
General and administrative		4,872		6,729			
Restructuring, acquisition, integration and other, net				25,452			
Share-based compensation expense before taxes		14,717		34,788			
Less: income tax benefit		3,609		5,539			
Net share-based compensation expense	\$	11,108	\$	29,249			

	Nine months ended September 30,			
Compensation Expense (in thousands)	2020 2019			2019
Cost of sales	\$	2,676	\$	2,202
Research and development		5,395		4,137
Sales and marketing		11,769		5,895
General and administrative		11,381		20,312
Restructuring, acquisition, integration and other, net				25,452
Share-based compensation expense before taxes		31,221		57,998
Less: income tax benefit		7,190		10,278
Net share-based compensation expense	\$	24,031	\$	47,720

In the three and nine months ended September 30, 2020, share-based compensation expense reflects an increase in expense as result of an increase in estimated performance achievement.

In the three and nine months ended September 30, 2019, Restructuring, acquisition, integration and other, net includes expense from accelerated vesting related to the restructuring activities discussed in Note 4 "Restructuring and Impairments".

No compensation cost was capitalized at September 30, 2020 or September 30, 2019 as the amounts were not material.

OPERATING AND FINANCIAL REVIEW AND PROSPECTS

This section contains a number of forward-looking statements. These statements are based on current management expectations, and actual results may differ materially. Among the factors that could cause actual results to differ from management's expectations are those described in "Risk Factors" and "Forward-looking and Cautionary Statements" below.

Forward-looking and Cautionary Statements

This report contains forward-looking statements that are subject to risks and uncertainties. These statements can be identified by the use of forward-looking terminology, such as "believe," "hope," "plan," "intend," "seek," "may," "will," "could," "should," "would," "expect," "anticipate," "estimate," "continue" or other similar words. Such statements are based on management's current expectations and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. We caution investors that there can be no assurance that actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements as a result of various factors, including, but not limited to, the following: risks associated with our expansion of operations, including the acquisition of new businesses; variability in our operating results from quarter to quarter; management of growth, international operations, and dependence on key personnel; intense competition; technological change; our ability to develop and protect proprietary products and technologies and to enter into and maintain collaborative commercial relationships; our future capital requirements; general economic conditions and capital market fluctuations; and uncertainties as to the extent of future government regulation of our business. As a result, our future success involves a high degree of risk. For further information, refer to the more specific risks and uncertainties discussed in Part 1, Item 3 "Key Information" of our Annual Report on Form 20-F for the year ended December 31, 2019 and under the heading "Risk Factors" below.

Results of Operations

Overview

We are a leading global provider of Sample to Insight solutions to transform biological materials into valuable molecular insights. QIAGEN sample technologies isolate and process DNA, RNA and proteins from any biological sample, such as blood or tissue. Assay technologies make these biomolecules visible and ready for analysis, such as identifying the DNA of a virus or a mutation of a gene. Digital insights integrate software and cloud-based resources to interpret increasing volumes of biological data and report relevant, actionable insights. Our automation solutions tie these together in seamless and cost-effective molecular testing workflows.

We sell our products - consumables, automated instrumentation systems using those technologies, and digital insights to analyze and interpret the data - to two major customer classes:

- **Molecular Diagnostics** healthcare providers engaged in many aspects of patient care requiring accurate diagnosis and insights to guide treatment decisions in oncology, infectious diseases and immune monitoring. Includes Precision Medicine and companion diagnostics.
- **Life Sciences** customers including government, biotechnology companies and researchers who utilize molecular testing and technologies who are generally served by public funding including areas such as medicine and clinical development efforts, forensics and exploring the secrets of life. Includes Pharma, Academia and Applied Testing customers.

We market products in more than 130 countries, mainly through subsidiaries in markets we believe have the greatest sales potential in Europe, Asia, the Americas and Australia. We also work with specialized independent distributors and importers. As of September 30, 2020, we employed approximately 5,300 people in more than 35 locations worldwide.

The COVID-19 pandemic will continue to have a significant impact on QIAGEN in 2020. Extraordinary demand has emerged for molecular technologies involved in testing for the new pathogen. We expect a continuation of trends from the first nine months of 2020 into the fourth quarter of the year. Sustained elevated demand for coronavirus test products is expected to more than offset weaker year-over-year sales trends in other areas of the portfolio, which are being adversely impacted by quarantines and lockdown actions in countries around the world.

The Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted on March 27, 2020 in the United States. The CARES Act and related notices include several significant provisions, including delaying certain payroll tax payments and mandatory transition tax payments under the Tax Cuts and Jobs Act. We do not currently expect the CARES Act to have a material impact on our financial results, including on our annual estimated effective tax rate, or on our liquidity. We will continue to monitor and assess the impact the CARES Act and similar legislation in other countries may have on our business and financial results.

Announced Merger with Thermo Fisher Scientific Inc.

On March 3, 2020, QIAGEN and Thermo Fisher Scientific Inc. (NYSE: TMO) announced that their boards of directors, as well as the Managing Board of QIAGEN N.V., unanimously approved Thermo Fisher's proposal to acquire QIAGEN for €39.00 per share in cash. On July 16, 2020, Thermo Fisher and QIAGEN entered into an amendment to the Business Combination Agreement dated as of March 3, 2020 whereby Quebec B.V., the wholly-owned subsidiary of Thermo Fisher making the public tender offer, increased the cash consideration offered per QIAGEN share from €39.00 to €43.00. The amendment also provided for a reduction of the minimum acceptance threshold from 75% to 66.67% of QIAGEN's issued and outstanding ordinary share capital at the end of the acceptance period on August 10, 2020, as well as a \$95.0 million expense reimbursement payable by QIAGEN to Thermo Fisher if the minimum acceptance threshold is not met. On August 13, 2020, QIAGEN announced that Thermo Fisher did not achieve the minimum 66.67% acceptance threshold from QIAGEN shareholders. During the three- and nine-months ended September 30, 2020, we incurred related expenses of \$103.6 million and \$124.5 million, respectively, which includes the \$95.0 million expense reimbursement which was paid when the minimum acceptance threshold was not met. These costs are recorded within restructuring, acquisition, integration and other expenses, net in the accompanying condensed consolidated statements of income.

QIAGEN engagement for global COVID-19 response

QIAGEN teams are fully mobilized to serve all of our customers in the response to the COVID-19 crisis, providing existing solutions and developing a series of differentiated product launches. QIAGEN expects an ongoing significant increase in these product group sales compared to the fourth quarter of 2019, and also higher sales sequentially from the third quarter of 2020. These efforts come as QIAGEN sharpens its strategic focus on five pillars of growth, many of which involve products used in the response to COVID-19 in addition to other applications: (1) Sample Technologies, (2) QuantiFERON, (3) NeuMoDx, (4) QIAstat-Dx, and (5) QIAcuity digital PCR.

Sample technologies:

Sales of total sample technology consumables and related instruments rose in the third quarter of 2020 compared to the same period in 2019, and also to the second quarter of 2020. QIAGEN experienced two trends since the end of the second quarter 2020: (1) greater demand for DNA sample technology consumables, and (2) a shift in demand for RNA sample technology consumables used in COVID-19 testing from manual to automated kits.

Sales of RNA sample technology consumables and instruments used in COVID-19 testing grew over 300% from the third quarter of 2019 and represented approximately 56% of COVID-19 product group sales in the third quarter of 2020 (year-to-date 2020: ~56%). QIAGEN is ramping up production capacity for automated sample technology consumables, which are processed on the QIAsymphony, QIAcube and EZ1 instruments as well as third-party high-throughput instruments.

QIAGEN is also launching new COVID-19 testing products based on its strong position in sample technologies. These include QIAprep&, which was launched for research use only in October 2020 to integrate RNA sample preparation and real-time PCR detection into a single kit with the aim of removing key COVID-19 testing bottlenecks. It can be completed in under one hour compared to about three hours for standard extraction-based PCR processes, and requires less disposable plastics than other tests. QIAprep& can also handle up to 2,600 samples per eight-hour shift per PCR cycler. QIAGEN plans to seek CE-IVD and FDA EUA clearances soon. QIAGEN has also launched new kits for use on 96-well third-party high-throughput instruments.

QIAGEN experienced ongoing strong demand for sample preparation instruments in the third quarter of 2020. A total of 290 new placements of the QIAsymphony automation system were made in the first nine months of 2020, a 50% increase over the same period of 2019. This growth builds on more than 2,500 cumulative placements at the end of 2019. In the QIAcube family of instruments, placements of new QIAcube Connect (more than 800 instruments) and the QIAcube HT high-throughput version (more than 250 instruments) were both more than 50% higher than in the same period of 2019. The QIAcube family had over 8,000 cumulative placements at the end of 2019. Additionally, more than 340 placements of the

EZ1 instrument were made so far in 2020, also double the placement level in the first nine months of 2019, and building on more than 3,750 cumulative placements at the end of 2019.

• PCR testing workflows: QIAstat-Dx, NeuMoDx and other PCR solutions

Total sales of PCR testing solutions represented approximately 23% of total COVID-19 sales in the third quarter of 2020 (year-to-date 2020: ~21%), a more than 300% increase from the same period in 2019. These included higher sales of the QIAstat-Dx and NeuMoDx systems and other PCR products that include the Rotor-Gene Q PCR cycler and related consumables. These PCR workflow sales also rose sequentially in the third quarter of 2020 from the second quarter of 2020.

QIAstat-Dx: QIAGEN continues to place this solution for syndromic testing with the QIAstat-Dx Respiratory SARS-CoV-2 Panel that can detect the SARS-CoV-2 virus and 21 other respiratory diseases with customers worldwide. The installed base reached over 1,800 cumulative placements at the end of the third quarter of 2020. QIAGEN is investing to significantly ramp up production of QIAstat-Dx cartridges at its sites in Germany and Spain in the coming months. The multi-stage project is expected to be finished in the first half of 2021.

NeuMoDx: QIAGEN acquired the remaining 80.1% stake in NeuMoDx Molecular, Inc. in mid-September 2020. This gives QIAGEN direct access to the U.S. market. The installed base reached 110 systems at the end of third quarter of 2020, including U.S. placements through the acquisition. Among recent developments, QIAGEN plans to soon submit a new NeuMoDx multiplex test that combines analysis for influenza, RSV (respiratory syncytial virus) and the SARS-CoV-2 virus for FDA EUA and CE-IVD clearance, and expects to launch this test in November. The sample input for the single-plex SARS-CoV-2 test is also expanded in Europe to include saliva as a sample type in addition to nasal and respiratory tract swabs.

OEM components for other diagnostic suppliers

Sales of these products, which involve reagents sold to other diagnostic companies for use in their own testing solutions, rose approximately 475% from the third quarter of 2019. They represented about 21% of COVID-19 sales in the third quarter of 2020 (year-to-date: ~23%), but declined compared to the second quarter of 2020, a period of very strong initial pandemic demand.

· Antigen and antibody tests

QIAGEN is partnering with Ellume, an Australian digital diagnostics company, to develop antigen and antibody tests. These tests provide rapid results through use of the QIAGEN eHub, which gives an automated read-out in less than 15 minutes. One QIAGEN eHub will be able to process 30 nasal swab samples per hour. The QIAreachTM SARS-CoV-2 Antigen Test is expected to be submitted in November 2020 for FDA Emergency Use Authorization (EUA) and receive CE-IVD marking. Additionally, the QIAreachTM Anti-SARS-CoV-2 Total test for total Ig (Interferon gamma) antibodies (IgA, IgM, IgG) was submitted for FDA EUA. A CE-IVD marking is planned for the fourth quarter of 2020.

Additional Sample to Insight portfolio developments

QIAcuity digital PCR

The first QIAcuity digital PCR systems have been installed with customers after full commercialization began in September 2020. QIAGEN has an increasing number of customer leads for this platform, which is designed to make digital PCR technology available to Life Sciences laboratories worldwide.

Three- and Nine- Month Periods Ended September 30, 2020 compared to Three- and Nine- Month Periods Ended September 30, 2019

Net Sales

In the third quarter of 2020, net sales grew 26% to \$483.8 million compared to \$382.7 million in the third quarter of 2019. We experienced ongoing significant demand for solutions used in the COVID-19 pandemic against improving trends compared to the second quarter in other areas of the portfolio. Strong sales growth was seen in both the instruments portfolio (+57% / 13% of sales) as well as the consumables and related revenues category (+23% / 87% of sales). Total sales of product groups used in COVID-19 tests were \$164.1 million in the third quarter 2020 while sales of other products were down 8% at \$319.7 million compared to the third quarter of 2019. Net sales grew 17% in the first nine months of 2020 to \$1.30 billion from \$1.11 billion in the year-ago period, and absorbed approximately one percentage point from adverse currency movements against the U.S. dollar. Total sales of product groups used in COVID-19 tests were \$417.6 million in the first nine months of 2020 while sales of other products were down 13% at \$881.5 million compared to the prior year.

	Third quarter 2020 First nine months 2020					
Net sales by product category and customer class (in millions)	Sales	% change	% of sales	Sales	% change	% of sales
Consumables and related revenues	\$420	+23%	87%	\$1,121	+13%	86%
Instruments	\$64	+57%	13%	\$178	+44%	14%
Molecular Diagnostics (1)	\$237	+29%	49%	\$617	+14%	48%
Life Sciences	\$247	+24%	51%	\$682	+19%	52%
Academia / Applied Testing	\$160	+31%	33%	\$447	+28%	34%
Pharma	\$87	+13%	18%	\$235	+5%	18%

⁽¹⁾ Includes companion diagnostic co-development revenues (Q3 2020: \$8 million, -25% and 9M 2020: \$22 million, -34%) Percentage changes are calculated based on the comparative prior year period.

Molecular Diagnostics experienced a 29% increase in sales for the third quarter of 2020 compared to the third quarter of 2019, absorbing one percentage point of adverse currency movements and representing 49% of total sales. Sales of sample technology instruments and consumables led the performance, supported by gains in instrument and consumables for the QIAstat-Dx and NeuMoDx solutions. While sales of the QuantiFERON-TB test for latent tuberculosis detection fell 19% to \$53 million when compared to the same time period of 2019, this was a significant improvement from the year-over-year 46% decline seen in the second quarter of 2020. During the third quarter of 2020, Universal NGS solution sales were higher against weaker sales for HPV tests as well as the Precision Medicine portfolio that absorbed a 25% decline in companion diagnostic co-development revenues compared to the third quarter of 2019. For the first nine months of 2020, Molecular Diagnostic sales increased 14% and were adversely affected by two percentage points from currency movements compared to the same period in 2019.

During the third quarter of 2020, Life Sciences sales grew 24% over the third quarter of 2019 and represented 51% of sales and were supported by two percentage points of sales growth from positive currency movements. Life Sciences also experienced higher sales in sample technology solutions and were support by gains in OEM component sales to other diagnostic suppliers compared to the third quarter of 2019. Gains were also seen for Universal NGS solutions against lower sales in QIAGEN Digital Insights (bioinformatics) and Human ID / Forensics. For the first nine months of 2020, Life Science sales rose 19% and represented 52% of total sales.

	T	hird quarter 20	20	First nine months 2020				
Net sales by geographic region (in millions)	Sales	% change	% of sales	Sales	% change	% of sales		
Americas	\$227	+18%	47%	\$578	+7%	45%		
Europe / Middle East / Africa (EMEA)	\$164	+44%	34%	\$457	+34%	35%		
Asia-Pacific / Japan	\$92	+22%	19%	\$260	+15%	20%		

Q3 and 9M 2020: Rest of world represented less than 1% of net sales. Percentage changes are calculated based on the comparative prior year period.

EMEA led the geographic regions with 44% sales growth in the third quarter of 2020 compared to the third quarter of 2019 due to strong performance in countries including Germany, France, the United Kingdom, Italy and Turkey. The EMEA region was supported by four percentage points of sales growth from positive currency movement. For the first nine months of 2020, the EMEA region experienced a 34% increase compared to the first nine months of 2019. This region was negatively impacted by one percentage point of currency movements compared to the first nine months of 2019. The Asia-Pacific / Japan region experienced continued gains in many countries including China that resulted in 22% growth during the third quarter compared to the third quarter of 2019 and benefited from one percentage point from positive currency movements. This region grew 15% for the first nine months of 2020 and absorbed one percentage point of currency movements compared to the first nine months of 2019. The Americas region experienced a 18% increase during the third quarter of 2020 due to gains in the United States along with significant increased demand in Brazil and Mexico against headwinds from decreased demand of QuantiFERON-TB tests in the United States. For the first nine months of 2020, the Americas region experienced a 7% increase compared to the first nine months of 2019.

Gross Profit

Gross profit was \$320.8 million (66% of net sales) for the three-month period ended September 30, 2020, as compared to \$254.9 million (67% of net sales) in the same period in 2019. Gross profit for the nine-month period ended September 30, 2020 was \$859.3 million (66% of net sales) as compared to \$725.7 million (65% of net sales) for the same period of 2019. Generally, our consumables and related products have a higher gross margin than our instrumentation products and service arrangements and fluctuations in the sales levels of these products and services can result in fluctuations in gross margin between periods. Gross profit in the three and nine months ended September 30, 2020 include the shift in product mix where lower margin instrument products advanced at a faster pace than consumable products as well as higher material costs. These adverse impacts were offset by lower amortization expense related to developed technology and patent and license rights, which have been acquired in business combinations, which is included in cost of sales.

In the third quarter of 2020, the amortization expense on acquisition-related intangibles within cost of sales decreased to \$15.7 million compared to \$18.1 million in the same period of 2019. For the nine-month period ended September 30, 2020, the amortization expense on acquisition-related intangibles was \$45.7 million compared to \$55.3 million in the same period of 2019. The decrease follows the full amortization of assets previously acquired in 2007. Our acquisition-related intangible amortization will increase following the acquisition of NeuMoDx and in the event of future acquisitions.

Research and Development

Research and development expenses decreased to \$36.1 million (7% of net sales) in the third quarter of 2020, compared to \$41.8 million (11% of net sales) in the same period in 2019. For the nine-month period ended September 30, 2020, research and development expenses decreased by 17% to \$102.7 million (8% of net sales) compared to \$123.5 million (11% of net sales) for the same period in 2019. The overall decrease in research and development costs in 2020 is the result of the suspended development of NGS-related instrument systems in connection with the 2019 restructuring measures discussed in Note 4 "Restructuring and Impairments." In 2020, research and development costs include costs associated with QIAstat menu expansion as well as costs with the launch of digital PCR and QIAcuity. As we continue to discover, develop and acquire new products and technologies, we expect to incur additional expenses related to facilities, licenses and employees engaged in research and development. Overall, research and development costs are expected to increase as a result of seeking regulatory approvals, including U.S. FDA Pre-Market Approval (PMA), U.S. FDA 510(k) clearance and EU CE approval of certain assays or instruments. Further, business combinations, along with the acquisition of new technologies, may increase our research and development costs in the future. We have a strong commitment to innovation and expect to continue to make investments in our research and development efforts.

Sales and Marketing

Sales and marketing expenses increased to \$102.2 million (21% of net sales) in the third quarter of 2020 from \$97.0 million (25% of net sales) in the same period of 2019. For the nine-month period ended September 30, 2020, sales and marketing expenses were \$292.3 million (23% of net sales) compared to \$293.6 million (26% of net sales) for the same period in 2019. Sales and marketing expenses are primarily associated with personnel, commissions, advertising, trade shows, publications, freight and logistics expenses, and other promotional expenses. The increased sales and market expense reflects higher share-based compensation expense as result of an increase in estimated performance achievement and increases in freight and commissions due to higher sales both due to higher sales partially offset from the limitations resulting from the COVID-19 pandemic, such as restricted travel and postponed trade shows and exhibits. When pandemic lockdowns and restrictions are lifted, we anticipate that absolute sales and marketing costs will increase, along with increases related to new product introductions.

General and Administrative

General and administrative expenses were \$27.9 million (6% of net sales) in the third quarter of 2020 as compared to \$28.8 million (8% of net sales) in the third quarter of 2019. During the nine-month period ended September 30, 2020, we recorded general and administrative expenses of \$80.0 million (6% of net sales) compared to \$87.0 million (8% of net sales) for the same period of 2019. The decreases in the three- and nine-month periods ended September 30, 2020 reflect lower personnel costs, including share-based compensation, following the 2019 restructuring measures as well as lower costs as a result of COVID-19 protective measures, such as restricted travel.

Acquisition-Related Intangible Amortization

Amortization expense related to developed technology and patent and license rights acquired in a business combination is included in cost of sales. Amortization of trademarks and customer base acquired in a business combination is recorded in operating expense under the caption "acquisition-related intangible amortization." Amortization expenses of intangible assets not acquired in a business combination are recorded within cost of sales, research and development, or sales and marketing based on the use of the asset.

We recorded amortization expense on acquisition-related intangibles within operating expense of \$5.3 million during the quarter ended September 30, 2020 compared to \$6.1 million for same period in 2019. We recorded amortization expense on acquisition-related intangibles within operating expense of \$15.4 million during the nine-month period ended September 30, 2020 compared to \$24.1 million for the same period in 2019. The decrease follows the full amortization of assets previously acquired in 2007. Our acquisition-related intangible amortization will increase following our acquisition of NeuMoDx and in the event of future acquisitions.

Restructuring, Acquisition, Integration and Other, net

Restructuring, acquisition, integration and other, net was expense of \$104.8 million and \$137.3 million during the three- and nine-months ended September 30, 2020 as compared to \$151.1 million and \$164.8 million in the same periods of 2019. During the three- and nine-months ended September 30, 2020, we incurred acquisition expenses of \$103.6 million and \$124.5 million, respectively, related to the unsuccessful acquisition attempt by Thermo Fisher. These expenses were partially offset by a \$11.7 million revaluation gain on the minority interest investment in connection with the acquisition of NeuMoDx as further discussed in Note 3 "Acquisitions and Divestitures". As we integrate NeuMoDx, we expect to incur additional integration costs in 2020 and into 2021. During the three-and nine-months ended September 30, 2020, we incurred \$0.3 million and \$1.6 million, respectively, of charges in connection with the 2019 restructuring measures as further discussed in Note 4 "Restructuring and Impairments".

Long-lived Asset Impairments

Impairments to intangible assets and property, plant and equipment during the nine-months ended September 30, 2020 totaled and \$1.0 million incurred in connection with the 2019 restructuring measures as further discussed in Note 4 "Restructuring and Impairments".

Other Expense, net

Total other expense, net was \$16.6 million and \$47.5 million during the three- and nine-month periods ended September 30, 2020 compared to total other expense, net of \$19.5 million and \$40.6 million in the same periods in 2019. Total other expense, net is primarily the result of interest expense, partially offset by interest income and includes the impacts of other (expense) income, including impacts of foreign currency transactions.

Interest expense increased to \$18.1 million during the quarter ended September 30, 2020 compared to \$17.2 million in the same period in 2019. During the nine-month period ended September 30, 2020 and 2019, we recorded interest expense of \$54.4 million and \$55.9 million, respectively. Interest costs primarily relate to debt, discussed in Note 7 "Debt" in the accompanying notes to the condensed consolidated financial statements.

For the three-month periods ended September 30, 2020 and 2019, interest income was \$1.7 million and \$4.7 million, respectively. For the nine-month period ended September 30, 2020, interest income decreased to \$8.4 million from \$17.9 million in the same period in 2019. Interest income primarily includes interest earned on cash and cash equivalents, short term investments, and income related to certain interest rate derivatives as discussed in Note 8 "Derivatives and Hedging" in the accompanying condensed consolidated financial statements. Interest income earned in 2019 included interest on higher cash balances following the issuance of cash convertible notes in November 2018.

For the three- and nine-month periods ended September 30, 2020, other expense, net was \$0.3 million and \$1.5 million compared to other expense, net of \$7.0 million and \$2.6 million in the same period in 2019.

For the three-month period ended September 30, 2020, other expense, net of \$0.3 million includes \$3.4 million of net losses on foreign currency transactions mostly offset by \$3.1 million of other income which includes \$1.2 million of income from equity method investees as well as a total of \$1.6 million in gains related to prior sales of assets. For the nine-month period ended September 30, 2020, other expense, net of \$1.5 million includes net losses on foreign currency transactions of \$5.9 million as well as the loss from the sale of an equity security investment of \$2.3 million. These losses were partially offset by \$3.8 million of income from equity method investees and \$1.6 million in gains related to prior sales of assets as well as \$1.0 million gain recognized due to early conversions of the 2021 Cash Convertible Notes.

For the three-month period ended September 30, 2019, other expense, net of \$7.0 million includes the investment impairment of \$4.8 million in addition to the unrealized losses, net on investments of \$1.0 million both discussed in Note 5 "Investments". For the ninemonth period ended September 30, 2019, other expense, net of \$2.6 million includes the \$4.8 investment impairment as well as unrealized losses, net on investments of \$1.8 million partially offset by equity method income of \$1.3 million.

Provision for Income Taxes

Our effective tax rates differ from the Netherlands statutory tax rate of 25% due in part to our operating subsidiaries being exposed to statutory tax rates ranging from zero to 35%. Fluctuations in the distribution of pre-tax (loss) income among our operating subsidiaries can lead to fluctuations of the effective tax rate in the consolidated financial statements. In the third quarters of 2020 and 2019, our effective tax rates were 39.4% and 29.2%, respectively. In the nine-month periods ended September 30, 2020 and 2019, the effective tax rates were 19.9% and 41.1% respectively. The effective tax rate in 2020 reflects higher operating income in the current year due to the significant demand for solutions used in COVID-19 testing while the 2019 effective tax rate reflects the restructuring charges incurred during the third quarter of 2019. Additionally, we record partial tax exemptions on foreign income primarily derived from operations in Germany, the Netherlands and Singapore. These foreign tax benefits are due to a combination of favorable tax laws, rules, rulings, and exemptions in these jurisdictions, including intercompany foreign royalty income in Germany which is statutorily exempt from trade tax. Further, we have intercompany financing arrangements in which the intercompany income is nontaxable or partially exempt. During 2020, we have intercompany financing arrangements through Dubai, and through mid-2019 had arrangements through Luxembourg and Ireland.

In future periods, our effective tax rate may fluctuate from similar or other factors as discussed in "Changes in tax laws or their application and the termination or reduction of certain government incentives, could adversely impact our overall effective tax rate, results of operations or financial flexibility" in Item 3 Risk Factors of the Annual Report on Form 20-F for the year ended December 31, 2019.

Liquidity and Capital Resources

To date, we have funded our business primarily through internally generated funds, debt and private and public sales of equity. Our primary use of cash has been to support continuing operations and our investing activities, including capital expenditure requirements and acquisitions. As of September 30, 2020 and December 31, 2019, we had cash and cash equivalents of \$465.4 million and \$623.6

million, respectively, and restricted cash of \$3.9 million and \$5.7 million, respectively. Cash and cash equivalents are primarily held in U.S. dollars and euros, other than those cash balances maintained in the local currency of subsidiaries to meet local working capital needs. At September 30, 2020, cash, cash equivalents and restricted cash had decreased by \$160.1 million from December 31, 2019, due to cash used in investing activities of \$388.8 million, partially offset by cash provided by operating activities of \$188.1 million and cash provided by financing activities of \$42.8 million. As of September 30, 2020 and December 31, 2019, we had working capital of \$497.1 million and \$618.9 million, respectively.

Operating Activities. For the nine months ended September 30, 2020 and September 30, 2019, we generated net cash from operating activities of \$188.1 million and \$221.4 million, respectively. While net income was \$146.5 million for the nine months ended September 30, 2020, non-cash components in income included \$147.8 million of depreciation and amortization, \$1.0 million of non-cash impairments primarily recorded in connection with the restructuring discussed in Note 4 "Restructuring and Impairments", \$31.4 million of amortization of debt discount and issuance costs and \$31.2 million of share-based compensation expense. In 2020, we made cash payments totaling \$119.4 million for costs related to the discontinued tender offer and \$50.4 million of cash paid for 2019 restructuring measures. Other items, net including fair value changes in derivatives of \$1.6 million includes the gain on the minority interest held in NeuMoDx as discussed in Note 3 "Acquisitions and Divestitures" partially offset by dividends received from equity method investments. Operating cash flows include a net decrease in working capital of \$180.4 million excluding changes in fair values of derivative instruments. The current period change in working capital is primarily due to decreased accrued and other liabilities following cash payments made in connection with the 2019 restructuring measures, increased inventories and prepaid expenses and other current assets. Because we rely heavily on cash generated from operating activities to fund our business, a decrease in demand for our products, longer collection cycles or significant technological advances of competitors would have a negative impact on our liquidity.

Investing Activities. Approximately \$388.8 million of cash was used in investing activities during the nine months ended September 30, 2020 compared to \$141.6 million for the same period in 2019. Cash used in investing activities during the nine months ended September 30, 2020 includes \$239.6 million cash paid for acquisition, net of cash acquired, primarily associated to the acquisition of NeuMoDx discussed in Note 3 "Acquisitions and Divestitures". Cash used in investing activities also included \$150.9 million for the purchases of intangible assets, of which \$119.3 million related to the asset acquisition from Formulatrix and \$86.7 million paid for purchases of property, plant and equipment. This was partially offset by \$144.6 million from redemptions of short-term investments. Cash used in investing activities during the nine months ended September 30, 2019 includes \$138.2 million paid for intangible assets primarily related to the asset acquisition from Formulatrix, \$229.0 million for purchases of short-term investments and \$67.9 million cash paid for the acquisition of N-of-One, net of cash acquired as discussed in Note 3 as well as \$86.4 million paid for purchases of property, plant and equipment. These activities were partially offset by \$21.5 million cash received for collateral assets and \$360.2 million from redemptions of short-term investments.

Financing Activities. Financing activities provided \$42.8 million of cash for the nine months ended September 30, 2020, primarily due to proceeds from short-term debt of \$59.4 million, \$15.1 million of cash received from collateral assets and \$12.3 million proceeds from the exercise of call options related to the Cash Convertible Notes. This was partially offset by the payment of \$34.4 million in total upon early conversion of a portion of the 2021 Notes and \$13.4 million paid in connection with net shares settlement for tax withholding related to the vesting of stock awards. This compares to cash used in financing activities of \$536.3 million for the nine months ended September 30, 2019 primarily for the \$433.4 million repayment of long-term debt as further discussed in Note 7 "Debt" and the purchase of treasury shares totaling \$74.5 million as further discussed in Note 12 "Equity".

Other Factors Affecting Liquidity and Capital Resources

During the third quarter of 2020, we entered into a short term line of credit that was drawn as of September 30, 2020 totaling \$58.5 million (€50.0 million) and is classified as a short term loan in the accompanying condensed consolidated balance sheet.

In November 2018, we issued \$500.0 million aggregate principal amount of Cash Convertible Senior Notes which is due in 2024 (2024 Notes), which are discussed fully in Note 7 "Debt". Interest on the 2024 Notes is payable semiannually in arrears at a rate of 1.000% per annum. The 2024 Notes will mature on November 13, 2024 unless repurchased or converted in accordance with their terms prior to such date.

In September 2017, we issued \$400.0 million aggregate principal amount of Cash Convertible Senior Notes which are due in 2023 (2023 Notes), which are discussed fully in Note 7 "Debt." Interest on the 2023 Notes is payable semiannually in arrears at a rate of 0.500% per annum. The 2023 Notes will mature on September 13, 2023 unless repurchased or converted in accordance with their terms prior to such date.

Additionally in 2017, we completed a German private placement of \$329.9 million, net of issuance costs, consisting of several tranches denominated in either U.S. dollars or Euro at either floating or fixed rates and due at various dates through June 2027 as described in Note 7 "Debt."

In October 2016, we extended the maturity of our €400 million syndicated revolving credit facility, which now has a contractual lifetime until December 2021 of which no amounts were utilized at September 30, 2020. The facility can be utilized in Euro, British pounds sterling, Swiss franc or U.S. dollar and bears interest of 0.40% to 1.20% above three months EURIBOR, or LIBOR in relation

to any loan not in euro, and is offered with interest periods of one, two, three or six months. We have additional credit lines totaling €26.6 million with no expiration date, none of which were utilized as of September 30, 2020.

In March 2014, we issued \$730.0 million aggregate principal amount of Cash Convertible Senior Notes of which \$433.4 million was paid in 2019, \$23.0 million was paid in 2020 and \$273.6 million is due in 2021 (2021 Notes). Interest on the 2021 Notes is payable semiannually in arrears on September 19 of each year, at a rate of 0.875% per annum commencing on September 19, 2014. The 2021 Notes will mature on March 19, 2021, unless repurchased or converted in accordance with their terms prior to such date.

In October 2012, we completed a U.S. private placement through the issuance of new senior unsecured notes at a total amount of \$400 million with a weighted average interest rate of 3.66% (settled on October 16, 2012). The notes were issued in three series: (1) \$73 million 7-year term due and paid in 2019 (3.19%); (2) \$300 million 10-year term due in 2022 (3.75%); and (3) \$27 million 12-year term due in 2024 (3.90%).

As of September 30, 2020, we carry \$1.7 billion of long-term debt, of which \$311.2 million is current, and \$99.2 million of operating lease liabilities, of which \$22.2 million is current. We did not hold any material finance leases as of September 30, 2020.

In connection with certain acquisitions, we could be required to make additional contingent cash payments totaling up to \$49.1 million based on the achievement of certain revenue and operating results milestones as further discussed in Note 15 "Commitments and Contingencies."

In January 2018, we announced our fifth share repurchase program of up to \$200 million of our common shares. During the three- and nine-month periods ended September 30, 2019, we repurchased 0.8 million and 2.0 million QIAGEN shares, respectively for \$30.0 million and \$74.4 million (including transaction costs), respectively, bringing the total shares repurchased under this program to 4.9 million for \$179.1 million (including transaction costs). This program ended on June 30, 2019. Repurchased shares will be held in treasury in order to satisfy various obligations, which include employee share-based remuneration plans.

On May 6, 2019, we announced our sixth share repurchase program of up to \$100 million of our common shares. No shares were repurchased under this program.

We expect that cash from financing activities will continue to be impacted by issuances of our common shares in connection with our equity compensation plans and that the market performance of our stock will impact the timing and volume of the issuances. Additionally, we may make future acquisitions or investments requiring cash payments or debt financing.

We believe that funds from operations, existing cash and cash equivalents and availability of financing facilities, will be sufficient to fund our planned operations and expansion during the coming year. However, any global economic downturn may have a greater impact on our business than currently expected, and we may experience a decrease in the sales of our products, which could impact our ability to generate cash. The recent outbreak of COVID-19 continues to impact the global economy and markets. At this time, the impact of the outbreak on our business has been mixed as production at our plants is uninterrupted and supply chains and distribution channels are intact yet our production is focused on those products most needed to fight the outbreak. At present, our liquidity remains healthy. However, going forward the COVID-19 outbreak may negatively impact, amongst other things, our supply chain, workforce, operations of our plants, and market demand and liquidity. If our future cash flows from operations and other capital resources are not adequate to fund our liquidity needs, we may be required to obtain additional debt or equity financing or to reduce or delay our capital expenditures, acquisitions or research and development projects. If we could not obtain financing on a timely basis or at satisfactory terms, or implement timely reductions in our expenditures, our business could be adversely affected.

Quantitative and Qualitative Disclosures about Market Risk

Our market risk relates primarily to interest rate exposures on cash, marketable securities, and borrowings and foreign currency exposures on intercompany and third-party transactions. The overall objective of our risk management strategy is to reduce the potential negative earnings effects from changes in interest and foreign currency exchange rates. Exposures are managed through operational methods and financial instruments. We do not use financial instruments for trading or speculative purposes. Our exposure to market risk from changes in interest rates and currency exchange rates has not changed materially from our exposure as discussed in Item 11 of our Annual Report on Form 20-F for the year ended December 31, 2019.

Foreign Currency

QIAGEN N.V.'s functional currency is the U.S. dollar and our subsidiaries' functional currencies are generally the local currencies of the respective countries in which they are located. All amounts in the financial statements of entities whose functional currency is not the U.S. dollar are translated into U.S. dollar equivalents at exchange rates as follows: (1) assets and liabilities at period-end rates, (2) income statement accounts at average exchange rates for the period, and (3) components of shareholders' equity at historical rates. Translation gains or losses are recorded in shareholders' equity, and transaction gains and losses are reflected in net income. Foreign currency transactions in the three- and nine-month periods ended September 30, 2020 resulted in net losses of \$3.4 million and \$5.9 million, respectively, and \$1.6 million and \$5.1 million in the same periods ended 2019, respectively are included in other expense, net.

Derivatives and Hedging

In the ordinary course of business, we use derivative instruments, including swaps, forwards and/or options, to manage potential losses from foreign currency exposures and variable rate debt. The principal objective of such derivative instruments is to minimize the risks and/or costs associated with global financial and operating activities. We do not utilize derivative or other financial instruments for trading or speculative purposes. We recognize all derivatives as either assets or liabilities on the balance sheet, measure those instruments at fair value and recognize the change in fair value in earnings in the period of change, unless the derivative qualifies as an effective hedge that offsets certain exposures. In determining fair value, we consider both the counterparty credit risk and our own creditworthiness. To determine our own credit risk, we estimated our own credit rating by benchmarking the price of our outstanding debt to publicly-available comparable data from rated companies. Using the estimated rating, we quantify our credit risk by reference to publicly-traded debt with a corresponding rating.

Foreign Currency Derivatives. As a globally active enterprise, we are subject to risks associated with fluctuations in foreign currencies in our ordinary operations. This includes foreign currency-denominated receivables, payables, debt, and other balance sheet positions. We manage our balance sheet exposure on a group-wide basis primarily using foreign exchange forward contracts, options and cross-currency swaps.

Interest Rate Derivatives. We are using interest rate derivatives to align our portfolio of interest bearing assets and liabilities with our risk management objectives. We have entered into interest rate swaps in which we agreed to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount.

We also make use of economic hedges. Further details of our derivative and hedging activities can be found in Note 8 "Derivatives and Hedging" to the accompanying condensed consolidated financial statements.

Recent Authoritative Pronouncements

For information on recent accounting pronouncements impacting our business, see Note 2 "Basis of Presentation and Accounting Policies" in the accompanying condensed consolidated financial statements.

Application of Critical Accounting Policies, Judgments and Estimates

The preparation of our financial statements in accordance with accounting principles generally accepted in the United States requires management to make assumptions that affect the reported amounts of assets and liabilities and disclosure of contingencies as of the date of the financial statements, as well as the reported amounts of revenues and expenses during the reporting period. Critical accounting policies are those that require the most complex or subjective judgments, often as a result of the need to make estimates about the effects of matters that are inherently uncertain. Thus, to the extent that actual events differ from management's estimates and assumptions, there could be a material impact on the financial statements. In applying our critical accounting policies, at times we used accounting estimates that either required us to make assumptions about matters that were highly uncertain at the time the estimate was made or were reasonably likely to change from period to period, having a material impact on the presentation of our results of operations, financial position or cash flows. While the COVID-19 pandemic presents additional uncertainty, we continue to use the best information available to form our estimates. Our critical accounting policies are those related to revenue recognition, income taxes, investments, goodwill and other intangible assets, acquisitions and fair value measurements.

Our critical accounting policies are discussed further in Item 5 of our Annual Report on Form 20-F for the year ended December 31, 2019. Actual results in these areas could differ from management's estimates.

Off-Balance Sheet Arrangements

We did not use special purpose entities and did not have off-balance-sheet financing arrangements as of September 30, 2020 and December 31, 2019.

Contractual Obligations

There were no material changes at September 30, 2020 from the contractual obligations disclosed in Item 5 of our Annual Report on Form 20-F for the year ended December 31, 2019.

Legal Proceedings

For information on legal proceedings, see Note 15 "Commitments and Contingencies" to the accompanying condensed consolidated financial statements.

While no assurances can be given regarding the outcome of the proceedings described in Note 15, based on information currently available, we believe that the resolution of these matters is unlikely to have a material adverse effect on our financial position or results of future operations for QIAGEN N.V. as a whole. However, because of the nature and inherent uncertainties of litigation, should the outcomes be unfavorable, certain aspects of our business, financial condition, and results of operations and cash flows could be materially adversely affected.

Risk Factors

Material risks that may affect our results of operations and financial position appear in Part 1, Item 3 "Key Information" of the Annua
Report on Form 20-F for the year ended December 31, 2019. There have been no material changes from the risk factors disclosed in
Item 3 of our Form 20-F.