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

FORM 6-K

**REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 OF
THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2021

Commission File Number 001-38332

QIAGEN N.V.

**Hulsterweg 82
5912 PL Venlo
The Netherlands**

Indicate by check mark whether the registrant 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 registrant is submitting the Form 6-K in paper as permitted by Regulation S-T
Rule 101(b)(1):

Indicate by check mark whether the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T
Rule 101(b)(7):

QIAGEN N.V.
Form 6-K
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OTHER INFORMATION

For the three months ended March 31, 2021, 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: May 4, 2021

EXHIBIT INDEX

Exhibit No.	Exhibit
99.1	U.S. GAAP Quarterly Report for the Period Ended March 31, 2021

QIAGEN N.V. AND SUBSIDIARIES

U.S. GAAP QUARTERLY REPORT FOR THE PERIOD ENDED MARCH 31, 2021

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QIAGEN N.V. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands)

	<u>Note</u>	<u>March 31, 2021</u>	<u>December 31, 2020</u>
		(unaudited)	
Assets			
Current assets:			
Cash and cash equivalents		\$ 787,786	\$ 597,984
Short-term investments		3,946	117,249
Accounts receivable, net of allowance for credit losses of \$26,816 and \$27,052 in 2021 and 2020, respectively		371,694	380,519
Inventories, net	(11)	316,280	291,181
Prepaid expenses and other current assets	(8)	185,844	237,472
Total current assets		<u>1,665,550</u>	<u>1,624,405</u>
Long-term assets:			
Property, plant and equipment, net of accumulated depreciation of \$622,464 and \$630,443 in 2021 and 2020, respectively		563,917	559,372
Goodwill	(6)	2,335,270	2,364,031
Intangible assets, net of accumulated amortization of \$762,599 and \$809,724 in 2021 and 2020, respectively	(6)	695,937	726,194
Deferred income tax assets		54,423	54,879
Fair value of derivative instruments - long-term	(8)	288,986	379,080
Other long-term assets	(5)	158,527	161,658
Total long-term assets		<u>4,097,060</u>	<u>4,245,214</u>
Total assets		<u>\$ 5,762,610</u>	<u>\$ 5,869,619</u>

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

QIAGEN N.V. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except par value)

	Note	March 31, 2021 (unaudited)	December 31, 2020
Liabilities and equity			
Current liabilities:			
Current portion of long-term debt	(7)	\$ —	\$ 42,539
Accounts payable		103,471	118,153
Accrued and other current liabilities	(8, 9, 13)	395,913	411,483
Total current liabilities		499,384	572,175
Long-term liabilities:			
Long-term debt, net of current portion	(7)	1,928,951	1,880,210
Fair value of derivative instruments - long-term	(8)	295,019	393,455
Other long-term liabilities	(9)	179,334	186,724
Deferred income tax liabilities		10,146	39,216
Total long-term liabilities		2,413,450	2,499,605
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 2021 and 2020, respectively	(12)	2,702	2,702
Additional paid-in capital	(12)	1,789,805	1,834,169
Retained earnings		1,430,528	1,323,091
Accumulated other comprehensive loss	(12)	(266,245)	(243,822)
Less treasury shares, at cost—2,422 and 2,844 shares in 2021 and 2020, respectively	(12)	(107,014)	(118,301)
Total equity		2,849,776	2,797,839
Total liabilities and equity		\$ 5,762,610	\$ 5,869,619

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

QIAGEN N.V. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share data)

	Note	Three months ended March 31,	
		2021	2020
		(unaudited)	
Net sales	(13)	\$ 567,206	\$ 372,097
Cost of sales:			
Cost of sales		178,974	113,447
Acquisition-related intangible amortization		17,641	15,112
Total cost of sales		<u>196,615</u>	<u>128,559</u>
Gross profit		<u>370,591</u>	243,538
Operating expenses:			
Research and development		47,433	34,813
Sales and marketing		113,760	95,757
General and administrative		33,803	28,194
Acquisition-related intangible amortization		5,408	5,090
Restructuring, acquisition, integration and other, net	(4)	6,389	11,412
Long-lived asset impairments	(4)	—	958
Total operating expenses		<u>206,793</u>	<u>176,224</u>
Income from operations		<u>163,798</u>	67,314
Other income (expense):			
Interest income		1,618	3,184
Interest expense		(13,538)	(18,922)
Other income (expense), net		7,222	(5,247)
Total other expense, net		<u>(4,698)</u>	<u>(20,985)</u>
Income before income taxes		<u>159,100</u>	46,329
Income tax expense		29,877	6,500
Net income		<u>\$ 129,223</u>	<u>\$ 39,829</u>
Basic earnings per common share		<u>\$ 0.57</u>	<u>\$ 0.17</u>
Diluted earnings per common share		<u>\$ 0.56</u>	<u>\$ 0.17</u>
Weighted-average shares outstanding			
Basic		228,266	228,008
Diluted		232,309	232,211

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

QIAGEN N.V. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)

	Note	Three months ended	
		March 31,	
		2021	2020
		(unaudited)	
Net income		<u>\$ 129,223</u>	<u>\$ 39,829</u>
Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods:			
Gains on cash flow hedges, net of tax expense of \$2.1 million in 2021 and tax expense of \$4.1 million in 2020	(8)	6,391	14,763
Reclassification adjustments on cash flow hedges, net of tax benefit of \$2.5 million in 2021 and tax benefit of \$1.1 million in 2020	(8)	<u>(7,371)</u>	<u>(3,918)</u>
Cash flow hedges, net of tax		<u>(980)</u>	10,845
Net investment hedge	(8)	15,947	7,070
Foreign currency translation adjustments, net of tax benefit of \$0.4 million in 2021 and tax benefit of \$0.5 million in 2020		<u>(37,390)</u>	<u>(95,825)</u>
Total other comprehensive loss		<u>(22,423)</u>	<u>(77,910)</u>
Comprehensive income (loss)		<u>\$ 106,800</u>	<u>\$ (38,081)</u>

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

QIAGEN N.V. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(in thousands)

(unaudited)	Note	Common Shares				Accumulated Other Comprehensive Loss	Treasury Shares		Total Equity
		Shares	Amount	Additional Paid-In Capital	Retained Earnings		Shares	Amount	
Balance at December 31, 2020		230,829	\$ 2,702	\$ 1,834,169	\$ 1,323,091	\$ (243,822)	(2,844)	\$ (118,301)	\$ 2,797,839
ASU 2020-06 impact of change in accounting policy	(2)	—	—	(54,052)	263	—	—	—	(53,789)
Net income		—	—	—	129,223	—	—	—	129,223
Unrealized gain, net on hedging contracts	(8)	—	—	—	—	22,338	—	—	22,338
Realized, gain on hedging contracts	(8)	—	—	—	—	(7,371)	—	—	(7,371)
Translation adjustment, net	(12)	—	—	—	—	(37,390)	—	—	(37,390)
Issuance of common shares in connection with stock plan		—	—	—	(22,049)	—	680	24,559	2,510
Tax withholding related to vesting of stock awards	(16)	—	—	—	—	—	(258)	(13,272)	(13,272)
Share-based compensation	(16)	—	—	9,688	—	—	—	—	9,688
Balance at March 31, 2021		230,829	\$ 2,702	\$ 1,789,805	\$ 1,430,528	\$ (266,245)	(2,422)	\$ (107,014)	\$ 2,849,776
Balance at December 31, 2019		230,829	\$ 2,702	\$ 1,777,017	\$ 1,178,457	\$ (309,619)	(3,077)	\$ (111,966)	\$ 2,536,591
ASC 326 impact of change in accounting policy		—	—	—	(15,074)	—	—	—	(15,074)
Net income		—	—	—	39,829	—	—	—	39,829
Unrealized gain, net on hedging contracts	(8)	—	—	—	—	21,833	—	—	21,833
Realized gain, net on hedging contracts	(8)	—	—	—	—	(3,918)	—	—	(3,918)
Translation adjustment, net	(12)	—	—	—	—	(95,825)	—	—	(95,825)
Issuance of common shares in connection with stock plan		—	—	—	(15,568)	—	564	20,680	5,112
Tax withholding related to vesting of stock awards	(16)	—	—	—	—	—	(153)	(5,612)	(5,612)
Share-based compensation	(16)	—	—	8,679	—	—	—	—	8,679
Balance at March 31, 2020		<u>230,829</u>	<u>\$ 2,702</u>	<u>\$ 1,785,696</u>	<u>\$ 1,187,644</u>	<u>\$ (387,529)</u>	<u>(2,666)</u>	<u>\$ (96,898)</u>	<u>\$ 2,491,615</u>

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

QIAGEN N.V. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Note	Three months ended March 31,	
		2020	2020
Cash flows from operating activities:			
Net income		\$ 129,223	\$ 39,829
Adjustments to reconcile net income to net cash provided by operating activities, net of effects of businesses acquired:			
Depreciation and amortization		55,587	48,476
Non-cash impairments	(4, 5)	—	958
Amortization of debt discount and issuance costs	(7)	7,936	9,723
Share-based compensation expense	(16)	9,688	8,679
Deferred income tax benefit		(28,396)	(5,336)
Gain on marketable securities		(2,092)	—
(Gain) loss on sale of investment		(222)	2,250
Other items, net including fair value changes in derivatives		(3,276)	9,251
Net changes in operating assets and liabilities:			
Accounts receivable		(3,179)	103
Inventories		(43,981)	(12,671)
Prepaid expenses and other current assets		5,950	(25,426)
Other long-term assets		(1,299)	1,491
Accounts payable		(5,598)	(12,021)
Accrued and other current liabilities		(34,512)	(67,623)
Income taxes		40,708	16,929
Other long-term liabilities		2,090	1,301
Net cash provided by operating activities		<u>128,627</u>	<u>15,913</u>
Cash flows from investing activities:			
Purchases of property, plant and equipment		(46,339)	(19,999)
Purchases of intangible assets	(6)	(8,620)	(7,927)
(Purchases of) proceeds from investments, net		(42)	62
Cash paid for acquisitions, net of cash acquired	(3)	—	(133)
Purchases of short-term investments		(1,802)	(24,877)
Proceeds from sales of short-term investments		117,871	65,000
Cash received (paid) for collateral asset		44,890	(1,017)
Other investing activities		17	2,010
Net cash provided by investing activities		<u>105,975</u>	<u>13,119</u>
Cash flows from financing activities:			
Repayment of long-term debt	(7)	(41,345)	—
Proceeds from issuance of common shares		2,510	5,112
Tax withholding related to vesting of stock awards	(16)	(62)	(5,933)
Other financing activities		(1,955)	10,207
Net cash (used in) provided by financing activities		<u>(40,852)</u>	<u>9,386</u>
Effect of exchange rate changes on cash, cash equivalents and restricted cash		<u>(3,948)</u>	<u>(6,032)</u>
Net increase in cash, cash equivalents and restricted cash		<u>189,802</u>	<u>32,386</u>
Cash, cash equivalents and restricted cash, beginning of period		<u>597,984</u>	<u>629,390</u>
Cash, cash equivalents and restricted cash, end of period		<u>\$ 787,786</u>	<u>\$ 661,776</u>

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

QIAGEN N.V. AND SUBSIDIARIES
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 a leading global provider of Sample to Insight solutions that enable customers to gain valuable molecular insights from samples containing the building blocks of life. Our sample technologies isolate and process DNA, RNA and proteins from blood, tissue and other materials. Assay technologies make these biomolecules visible and ready for analysis. Bioinformatics software and knowledge bases interpret data to report relevant, actionable insights. Automation solutions tie these together in seamless and cost-effective workflows. We provide solutions to more than 500,000 customers around the world in Molecular Diagnostics (human healthcare) and Life Sciences (academia, pharma R&D and industrial applications, primarily forensics). As of March 31, 2021, we employed approximately 5,750 people in over 35 locations worldwide.

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. Accordingly, at the acquisition date, 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 company from the acquisition date.

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, 2020. Certain reclassifications to prior year balances have been made to conform to the current year presentation.

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, 2020, other than as described below for the adoption of new accounting standards as of January 1, 2021.

Adoption of New Accounting Standards

The following new FASB Accounting Standards Updates (ASU) were adopted in 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 adopted the ASU on the effective date of January 1, 2021 and the adoption of this guidance did not have an impact on our consolidated financial statements on the date of adoption. Ultimately, the impact in future periods will be dependent on the extent to which events or conditions would be affected such as enacted changes in tax laws or rates.

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. 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. ASU 2020-06 is effective for annual periods beginning on January 1, 2022, with earlier adoption on January 1, 2021 permitted. We adopted ASU 2020-06 early on January 1, 2021 and this resulted in a decrease of \$54.1 million to additional paid in capital and an increase of \$0.3 million to retained earnings for the conversion feature to the liability for our 2027 Convertible Notes further discussed in Note 7 "Debt".

New Accounting Standards Not Yet Adopted

The following new FASB Accounting Standards Update, which is not yet adopted, has a required effective date 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

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 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 shares of NeuMoDx Molecular, Inc. ("NeuMoDx"), 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. Prior to acquisition, we held a 19.9% investment in NeuMoDx with a carrying value of \$41.0 million. The cash consideration, net of cash acquired, totaled \$239.4 million for the remaining shares. Of this amount, \$7.6 million was retained in an escrow account as of March 31, 2021 which is expected to be fully utilized to cover claims for breach of any representations, warranties or indemnities. We incurred \$2.5 million acquisition related costs to effect the business combination, of which \$0.2 million was incurred during the three-months ended March 31, 2020 and is included in restructuring, acquisition, integration and other, net.

The acquisition date fair value of the minority interest investment was \$52.7 million and a gain of \$11.7 million was recorded in restructuring, acquisition, integration and other, net in the consolidated statement of income for the period ending September 30, 2020. The fair value of the minority interest investment was determined using an implied purchase price reduced by a 20% control premium.

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 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 acquired tax balances.

The preliminary purchase price allocation for NeuMoDx as of March 31, 2021 and the difference from September 30, 2020 is as follows:

(in thousands)	As of March 31, 2021	As of September 30, 2020	Difference
Purchase Price:			
Cash consideration	\$ 251,730	\$ 251,730	\$ —
Fair value of minority interest	52,727	52,727	—
	<u>\$ 304,457</u>	<u>\$ 304,457</u>	<u>\$ —</u>
Preliminary Allocation:			
Cash and cash equivalents	\$ 12,291	\$ 12,291	\$ —
Accounts receivable	5,691	5,691	—
Inventories	20,271	18,866	1,405
Prepaid expenses and other current assets	5,961	5,943	18
Accounts payable	(12,450)	(11,168)	(1,282)
Accruals and other current liabilities	(19,085)	(18,770)	(315)
Other long-term liabilities	(4,101)	(4,101)	—
Fixed and other long-term assets	7,076	6,698	378
Developed technology	101,000	119,100	(18,100)
In-process research and development	55,000	64,800	(9,800)
Patents and license rights	770	770	—
Customer backlog	400	900	(500)
Goodwill	158,178	149,877	8,301
Deferred tax asset	12,457	—	12,457
Deferred tax liability on fair value of identifiable intangible assets acquired	(39,002)	(46,440)	7,438
Total	<u>\$ 304,457</u>	<u>\$ 304,457</u>	<u>\$ —</u>

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 above acquisition occurred at the beginning of the periods presented. For the three-month period ended March 31, 2020, pro forma net sales would have been \$373.8 million, pro forma net income would have been \$32.6 million and pro forma diluted net income per common share would have been \$0.14. These unaudited pro forma results are intended for informational purposes only and are not necessarily indicative of the results of operations that would have occurred had the acquisition been in effect at the beginning of the periods presented, or of future results of the combined operations.

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 due to the assets being deemed excess and no longer utilized due to the discontinued development and related actions discussed above.

In addition, we implemented 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.

During 2020, certain of the planned measures were delayed during the pendency of the acquisition attempt by Thermo Fisher or changed as a result of business needs during the pandemic. The following is a summary of the charges related to the 2019 restructuring program recorded in the consolidated statements of income during the three months ended March 31, 2021 and cumulatively through March 31, 2021.

Classification and Type of Charge (in thousands)	Three months ended March 31, 2021	Total program charges through March 31, 2021
Restructuring, acquisition, integration and other, net		
Personnel related	\$ 1,017	\$ 72,499
Contract and other costs	(721)	53,363
Accounts receivable	(28)	10,175
Inventories	—	13,350
Prepaid expenses and other current assets	—	17,139
	268	166,526
Long-lived asset impairments		
Property, plant and equipment	—	99,506
Intangible assets	—	40,301
	—	139,807
Other expense, net		
Equity method investment impairment	—	4,799
Total	\$ 268	\$ 311,132

Of the total costs incurred, \$7.4 million and \$11.2 million were accrued as of March 31, 2021 and December 31, 2020, 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 and Other Costs	Total
Liability at December 31, 2020	\$ 4,687	\$ 6,479	\$ 11,166
Additional costs incurred in 2021	1,575	4,279	5,854
Release of accrual	(558)	(5,000)	(5,558)
Payments	(2,663)	(1,274)	(3,937)
Foreign currency translation adjustment	(109)	(62)	(171)
Liability at March 31, 2021	\$ 2,932	\$ 4,422	\$ 7,354

Future pre-tax costs between \$3 - \$5 million are expected to be incurred primarily related to personnel and consulting in the remainder 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

We hold investments in marketable equity securities that have readily determinable fair values. These investments are reported at fair value with gains and losses recorded in earnings.

As of March 31, 2021, our investments in marketable equity securities totaled \$2.4 million, of which \$2.1 million are included in short-term investments and \$0.3 million are included in other long-term assets in the accompanying condensed consolidated balance sheet, as follows:

(in thousands, except shares held)	Short-Term		Long-Term	
	OncoCyte Corporation (OncoCyte)	Oncimmune Holdings plc (Oncimmune)	HTG Molecular Diagnostics, Inc (HTGM)	
Shares held	118,253	560,416	55,556	
Cost basis	\$ 230	\$ 657	\$ 2,000	
Fair value	\$ 614	\$ 1,508	\$ 304	
Total cumulative unrealized gain (loss)	\$ 384	\$ 851	\$ (1,696)	

In the first quarter of 2021, we sold 2.8 million shares of Invitae Corporation ("Invitae") that were received as part of the consideration for the 2020 sale of our ArcherDX shares. As a result, we received \$117.9 million in cash and recognized a \$2.1 million gain in other income, net in the accompanying condensed consolidated statement of income for the change in fair market value since December 31, 2020. As of March 31, 2021, we are entitled to up to 1.7 million Invitae shares in the future upon achievement of certain milestones.

Also during the first quarter of 2021, we received 30,152 shares in OncoCyte with a fair value of \$0.1 million on the date of receipt as further consideration from the 2020 sale of a non-marketable investment not accounted for under the equity method. As of March 31, 2021, we are entitled to up to approximately \$3 million in the future upon achievement of certain milestones.

During the three months ended March 31, 2021 gains recognized for the change in fair market value of all marketable equity securities totaled \$0.5 million recognized in other income, net.

As of December 31, 2020, these marketable securities are included in short-term investment and other long-term assets in the accompanying condensed consolidated balance sheet as follows:

(in thousands, except shares held)	Short-Term			Long-Term	
	Invitae	OncoCyte	Oncimmune	HTGM	
Shares held	2,769,189	88,101	560,416	55,556	
Cost basis	\$ 100,822	\$ 230	\$ 657	\$ 2,000	
Fair value	\$ 115,780	\$ 211	\$ 1,258	\$ 266	
Total cumulative unrealized gain (loss)	\$ 14,958	\$ (19)	\$ 601	\$ (1,734)	

In 2020, HTGM completed a 15:1 reverse stock split.

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.

During the three months ended March 31, 2020, losses recognized for the change in fair market value of all marketable equity securities totaled \$0.3 million recognized in other expense, net in the accompanying condensed consolidated statements of income.

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 March 31, 2021, we had total non-marketable investments that were accounted for as equity method investments of \$12.6 million, of which \$13.0 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, 2020, these investments totaled \$11.0 million, of which \$11.5 million is included in other long-term assets and \$0.5 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 March 31, 2021, these investments had a total carrying value representing our maximum exposure to loss which totaled \$3.2 million, of which \$3.7 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, 2020, these investments totaled \$3.0 million, of which \$3.5 million is included on other long-term assets and \$0.5 million is included in other long-term liabilities.

Non-Marketable Investments Not Accounted for Under the Equity Method

At March 31, 2021 and December 31, 2020, we had investments in non-publicly traded companies that do not have readily determinable fair values with carrying amounts that totaled \$4.1 million 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 price changes are recognized in the statements of income during the period the change is identified.

The changes in non-marketable investments not accounted for under the equity method during the three months ended March 31, 2021 and 2020 are as follows:

(in thousands)	2021	2020
Balance at beginning of year	\$ 4,142	\$ 70,849
Cash investments in equity securities, net	117	112
Sale of equity securities	—	(250)
Loss on sale of equity securities	—	(2,250)
Foreign currency translation adjustments	(159)	(159)
Balance at end of period	<u>\$ 4,100</u>	<u>\$ 68,302</u>

In the above table, the three months ended March 31, 2020 includes the value of our investments in NeuMoDx which we later fully acquired in September 2020 as discussed in Note 3 "Acquisitions", and ArcherDx which we sold in October 2020. We made additional investments of \$0.1 million in non-marketable investments not accounted for under the equity method during the three months ended March 31, 2021.

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 for the three months ended March 31, 2020. Also, we made additional investments of \$0.1 million in non-marketable investments not accounted for under the equity method during the three months ended March 31, 2020.

6. Intangible Assets

The following sets forth the intangible assets by major asset class as of March 31, 2021 and December 31, 2020:

(in thousands)	March 31, 2021		December 31, 2020	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Amortized Intangible Assets:				
Patent and license rights	\$ 288,698	\$ (194,346)	\$ 298,395	\$ (197,038)
Developed technology	809,223	(343,964)	860,129	(378,705)
Customer base, non-compete agreements and trademarks	298,432	(224,289)	314,876	(233,981)
	<u>\$ 1,396,353</u>	<u>\$ (762,599)</u>	<u>\$ 1,473,400</u>	<u>\$ (809,724)</u>
Unamortized Intangible Assets:				
In-process research and development	\$ 62,183		\$ 62,518	
Goodwill	2,335,270		2,364,031	
	<u>\$ 2,397,453</u>		<u>\$ 2,426,549</u>	

The in-process research and development as of March 31, 2021 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 as discussed in Note 3 "Acquisitions and Divestitures" which are being amortized over 10 years.

The changes in intangible assets in 2021 are summarized as follows:

(in thousands)	Intangibles	Goodwill
Balance at December 31, 2020	\$ 726,194	\$ 2,364,031
Purchase adjustments	—	551
Additions	6,200	—
Amortization	(27,762)	—
Foreign currency translation adjustments	(8,695)	(29,312)
Balance at March 31, 2021	<u>\$ 695,937</u>	<u>\$ 2,335,270</u>

Cash paid for purchases of intangible assets during the three months ended March 31, 2021 totaled \$8.6 million, of which \$2.7 million is related to current year payments for assets that were accrued as of December 31, 2020. Intangible additions of \$6.2 million includes \$5.9 million of cash paid during the year and \$0.3 million of additions which were previously recorded as prepayments.

The decrease in the carrying amount of goodwill for the three months ended March 31, 2021 resulted primarily from changes in foreign currency translation partially offset by purchase adjustments.

For the three-month periods ended March 31, 2021 and 2020, amortization expense on intangible assets totaled approximately \$27.8 million and \$24.3 million, respectively. Amortization of intangibles for the next five years is expected to be approximately:

Year	Annual Amortization (in millions)
2022	\$ 90.5
2023	\$ 88.0
2024	\$ 84.3
2025	\$ 72.2
2026	\$ 64.1

7. Debt

At March 31, 2021 and December 31, 2020, total current long-term debt, net of debt issuance costs consists of the following:

(in thousands)	March 31, 2021	December 31, 2020
0.875% Senior Unsecured Cash Convertible Notes due 2021	\$ —	\$ 200
0.500% Senior Unsecured Cash Convertible Notes due 2023	364,714	361,304
1.000% Senior Unsecured Cash Convertible Notes due 2024	433,673	429,496
0.000% Senior Unsecured Convertible Notes due 2027	496,404	442,481
3.75% Series B Senior Notes due October 16, 2022	304,009	304,761
3.90% Series C Senior Notes due October 16, 2024	26,959	26,956
German Private Placement (Schuldschein)	303,192	357,551
Total long-term debt	<u>\$ 1,928,951</u>	<u>\$ 1,922,749</u>
Less: current portion	—	42,539
Long-term portion	<u>\$ 1,928,951</u>	<u>\$ 1,880,210</u>

In the first quarter of 2021, we repaid \$41.1 million for two tranches of the German Private Placement bond (Schuldschein) that matured and the remaining \$0.2 million of 2021 Notes was repaid at the original maturity on March 19, 2021.

The notes are all unsecured obligations that rank pari passu.

The principal amount, carrying amount and fair values of long-term debt instruments are summarized below:

(in thousands)	As of March 31, 2021				
	Principal Amount	Unamortized debt discount and issuance costs	Carrying Amount	Fair Value	
				Amount	Leveling
Cash Convertible Notes due 2023	\$ 400,000	\$ 35,286	\$ 364,714	\$ 507,252	Level 1
Cash Convertible Notes due 2024	500,000	66,327	433,673	615,325	Level 1
Convertible Notes due 2027	500,000	3,596	496,404	503,430	Level 1
U.S. Private Placement ⁽¹⁾	331,252	284	330,968	335,858	Level 2
German Private Placement	303,536	344	303,192	306,800	Level 2
	<u>\$ 2,034,788</u>	<u>\$ 105,837</u>	<u>\$ 1,928,951</u>	<u>\$ 2,268,665</u>	

⁽¹⁾ The principal amount of the U.S Private Placement includes the \$4.3 million impact of the interest rate swaps which qualify for hedge accounting as fair value hedges which are further discussed in Note 8 "Derivatives and Hedging".

Interest expense related to the convertible notes for the three months ended March 31, 2021 and 2020 was comprised of the following:

(in thousands)	Three months ended	
	March 31,	
	2021	2020
Coupon interest	\$ 1,750	\$ 2,399
Amortization of original issuance discount	7,097	8,873
Amortization of debt issuance costs	624	677
Total interest expense related to the convertible notes	<u>\$ 9,471</u>	<u>\$ 11,949</u>

Convertible Notes due 2027

On December 17, 2020, we issued zero coupon convertible notes in an aggregate principal amount of \$500.0 million with a maturity date of December 17, 2027 (2027 Notes). The 2027 Notes carry no coupon interest. The net proceeds of the 2027 Notes totaled \$497.6 million, after debt issuance costs of \$3.7 million, of which \$0.4 million was accrued as of March 31, 2021.

In accounting for the issuance of the 2027 Notes in 2020 prior to the adoption of ASU 2020-06, we separated the 2027 Notes into liability and equity components. We allocated \$445.9 million of the 2027 Notes to the liability component, representing the fair value of a similar debt instrument that does not have an associated convertible feature; and \$54.1 million to the equity component, representing the conversion option, which does not meet the criteria for separate accounting as a derivative as it is indexed to our own stock. ASU 2020-06 was adopted on January 1, 2021 as discussed in Note 2 "Basis of Presentation and Accounting Policies".

The effective interest rate of the 2027 Notes is 1.65%, which is imputed based on the amortization of the fair value of the embedded conversion option over the remaining term of the 2027 Note.

We incurred issuance costs of \$3.7 million related to the 2027 Notes. Issuance costs were allocated to the liability and equity components based on the same proportion used to allocate the proceeds. Issuance costs attributable to the liability component of \$3.3 million are amortized to interest expense over the term of the 2027 Notes, and issuance costs attributable to the equity component of \$0.5 million are included along with the equity component in equity.

The 2027 Notes are convertible into common shares based on an initial conversion rate, subject to adjustment, of 2,477.65 shares per \$200,000 principal amount of notes (which represents an initial conversion price of \$80.7218 per share, or 6.2 million underlying shares). At conversion, we will settle the 2027 Notes by repaying the principal portion in cash and any excess of the conversion value over the principal amount in shares of common stock.

The notes may be redeemed at the option of each noteholder at their principal amount on December 17, 2025 or in connection with a change of control or delisting event.

The 2027 Notes are convertible in whole, but not in part, at the option of the noteholders on a net share settlement basis, at the prevailing conversion price in the following circumstances beginning after January 27, 2021 through June 16, 2027:

- 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; or
- if we undergo certain fundamental changes, including a change of control, as defined in the agreement; or
- if parity event or trading price unavailability event, as the case maybe occurs during the period of 10 days, including the first business day following the relevant trading price notification date; or
- if we distribute assets or property to all or substantially all of 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; or
- in case of early redemption in respect of the outstanding notes at our option, where the conversion date falls in the period from (and including) the date on which the call notice is published to (and including) the 45th business day prior to the redemption date; or
- if we experience certain customary events of default, including defaults under certain other indebtedness, until such event of default has been cured or waived.

The noteholders may convert their notes at any time, without condition, on or after June 17, 2027 until the 45th business day prior to December 17, 2027.

Cash Convertible Notes due 2021, 2023 and 2024

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.

On March 19, 2014, we issued Cash Convertible Senior Notes in two tranches including \$300.0 million due in 2021 (2021 Notes). In 2019, \$3.4 million was converted during the contingent conversion period. In 2020, a total of \$296.4 million of the 2021 Notes was repaid and the remaining \$0.2 million of 2021 Notes was repaid at the original maturity on March 19, 2021.

We refer to the 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	Conversion 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

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.

No Contingent Conversion Conditions were triggered for the 2023 Notes and 2024 Notes as of March 31, 2021.

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 make-whole 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 condensed consolidated statements of income until the cash conversion option transaction settles or expires. The initial fair value liability of the embedded cash conversion options for the 2021 Notes was \$54.0 million, \$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, 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 2021 Notes, 2023 Notes and 2024 Notes is 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 May 2014 Cash Convertible Senior Notes in two tranches, which included the 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.

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. 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, 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.

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 March 31, 2021. 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. In the first quarter of 2021, we repaid \$41.1 million for two tranches that matured. 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 March 31, 2021 totaled \$10.9 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 March 31, 2021 and December 31, 2020 is as follows:

Currency	Notional Amount	Interest Rate	Maturity	Carrying Value (in thousands) as of	
				March 31, 2021	December 31, 2020
EUR	€11.5 million	Fixed 0.4%	March 2021	\$ —	\$ 14,115
EUR	€23.0 million	Floating EURIBOR + 0.4%	March 2021	—	28,224
EUR	€21.5 million	Fixed 0.68%	October 2022	25,189	26,361
EUR	€64.5 million	Floating EURIBOR + 0.5%	October 2022	75,565	79,083
USD	\$45.0 million	Floating LIBOR + 1.2%	October 2022	44,955	44,948
EUR	€25.0 million	Floating EURIBOR + 0.5%	October 2022	29,278	30,642
EUR	€64.0 million	Fixed 1.09%	June 2024	74,938	78,429
EUR	€31.0 million	Floating EURIBOR + 0.7%	June 2024	36,298	37,989
EUR	€14.5 million	Fixed 1.61%	June 2027	16,969	17,760
				\$ 303,192	\$ 357,551

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.

Revolving Credit Facility

Our credit facilities available and undrawn at March 31, 2021 total €427.0 million (approximately \$500.7 million). This includes a €400.0 million syndicated ESG-linked revolving credit facility expiring December 2023 and three other lines of credit amounting to €27.0 million with no expiration date. The €400.0 million facility can be utilized in Euro and bears interest of 0.550% to 1.500% above EURIBOR, and is offered with interest periods of one, 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 March 31, 2021. The credit facilities are for general corporate purposes and no amounts were utilized at March 31, 2021.

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 March 31, 2021, cash collateral positions consisted of \$0.1 million recorded in accrued and other current liabilities and \$11.2 million recorded in prepaid expenses and other current assets in the accompanying condensed consolidated balance sheets. As of December 31, 2020, we had cash collateral positions consisting of \$0.6 million recorded in accrued and other current liabilities and \$56.1 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 was designated as the hedging instrument as of December 31, 2020 against a portion of our Euro net investments in our foreign operations. As further described in Note 7, two tranches of the

Schuldschein matured and were paid during the first quarter of 2021 and as a result, €220.5 million remained designated as a hedging instrument as of March 31, 2021. 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 March 31, 2021 and December 31, 2020 is \$10.9 million and \$26.9 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 March 31, 2021 and December 31, 2020.

Derivatives Designated as Hedging Instruments

Cash Flow Hedges

As of March 31, 2021 and December 31, 2020, 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 March 31, 2021, we expect approximately \$2.6 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 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 March 31, 2021 and December 31, 2020, interest receivables of \$0.4 million and \$1.1 million, respectively are recorded in prepaid expenses and other current assets in the accompanying condensed consolidated balance sheets.

Fair Value Hedges

As of March 31, 2021 and December 31, 2020, 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 March 31, 2021 and December 31, 2020, interest receivables of \$0.9 million and \$0.6 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 in other income (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 in other income (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."

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 March 31, 2021 and December 31, 2020, aggregate notional values of \$1.1 billion and \$1.3 billion, respectively which expire at various dates through June 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 income (expense), net.

Fair Values of Derivative Instruments

The following table summarizes the fair value amounts of derivative instruments as of March 31, 2021 and December 31, 2020. The current assets are included in prepaid expenses and other current assets and the current liabilities are included in accrued and other current liabilities in the accompanying condensed consolidated balance sheets.

(in thousands)	As of March 31, 2021		As of December 31, 2020	
	Current Asset	Long-Term Asset	Current Asset	Long-Term Asset
Assets:				
Derivative instruments designated as hedges				
Interest rate contracts - fair value hedge ⁽¹⁾	\$ —	\$ 4,252	\$ —	\$ 5,042
Total derivative instruments designated as hedges	\$ —	\$ 4,252	\$ —	\$ 5,042
Undesignated derivative instruments				
Equity options	\$ —	\$ 284,734	\$ 2,415	\$ 374,038
Foreign exchange forwards and options	10,792	—	11,712	—
Total undesignated derivative instruments	\$ 10,792	\$ 284,734	\$ 14,127	\$ 374,038
Total Derivative Assets	\$ 10,792	\$ 288,986	\$ 14,127	\$ 379,080
(in thousands)	As of March 31, 2021		As of December 31, 2020	
	Current Liability	Long-Term Liability	Current Liability	Long-Term Liability
Liabilities:				
Derivative instruments designated as hedges				
Interest rate contracts - cash flow hedge ⁽¹⁾	\$ —	\$ (8,887)	\$ —	\$ (17,409)
Total derivative instruments designated as hedges	\$ —	\$ (8,887)	\$ —	\$ (17,409)
Undesignated derivative instruments				
Equity options	\$ —	\$ (286,132)	\$ (5,966)	\$ (376,046)
Foreign exchange forwards and options	(11,076)	—	(45,498)	—
Total undesignated derivative instruments	\$ (11,076)	\$ (286,132)	\$ (51,464)	\$ (376,046)
Total Derivative Liabilities	\$ (11,076)	\$ (295,019)	\$ (51,464)	\$ (393,455)

⁽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-month periods ended March 31, 2021 and 2020:

(in thousands)	Three months ended	
	March 31,	
	2021	2020
	Other income, net	Other expense, net
Total amounts presented in the Condensed Consolidated Statements of Income in which the effects of cash flow and fair value hedges are recorded	\$ 7,222	\$ (5,247)
Gains (Losses) on Derivatives in Cash Flow Hedges		
Interest rate contracts		
Amount of loss reclassified from accumulated other comprehensive loss	\$ (9,828)	\$ (5,004)
Amounts excluded from effectiveness testing	—	—
Gains (Losses) on Derivatives in Fair Value Hedges		
Interest rate contracts		
Hedged item	790	(3,698)
Derivatives designated as hedging instruments	(790)	3,698
Gains (Losses) Derivatives Not Designated as Hedging Instruments		
Equity options	(91,719)	43,148
Cash convertible notes embedded cash conversion option	95,881	(45,075)
Foreign exchange forwards and options	23,503	(20,241)
Total gain (loss)	\$ 17,837	\$ (27,172)

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 March 31, 2021 and December 31, 2020:

(in thousands)	Carrying Amount of the Hedged Assets (Liabilities)		Cumulative Amount of Fair Value Hedging Adjustment Included in the Carrying Amount of Hedged Assets (Liabilities)	
	March 31, 2021	December 31, 2020	March 31, 2021	December 31, 2020
	Long-term debt	\$ (131,149)	\$ (131,923)	\$ 4,252

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 marketable securities discussed in Note 5 "Investments", which are classified in Level 1, short-term investments, which are classified in Level 2 of the fair value hierarchy, 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, contingent consideration accruals which are classified in Level 3 of the fair value hierarchy, and are shown in the tables below and non-marketable equity securities remeasured as of March 31, 2021 and December 31, 2020 are classified within Level 3 in the fair value hierarchy. There were no transfers between levels during the three months ended March 31, 2021.

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, giving consideration to 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. 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 6.5% 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:

(in thousands)	As of March 31, 2021				As of December 31, 2020			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Marketable equity securities	\$ 2,426	\$ —	\$ —	\$ 2,426	\$ 117,515	\$ —	\$ —	\$ 117,515
Non-marketable equity securities	—	—	4,100	4,100	—	—	4,142	4,142
Equity options	—	284,734	—	284,734	—	376,453	—	376,453
Foreign exchange forwards and options	—	10,792	—	10,792	—	11,712	—	11,712
Interest rate contracts	—	4,252	—	4,252	—	5,042	—	5,042
	<u>\$ 2,426</u>	<u>\$ 299,778</u>	<u>\$ 4,100</u>	<u>\$ 306,304</u>	<u>\$ 117,515</u>	<u>\$ 393,207</u>	<u>\$ 4,142</u>	<u>\$ 514,864</u>
Liabilities:								
Foreign exchange forwards and options	\$ —	\$ (11,076)	\$ —	\$ (11,076)	\$ —	\$ (45,498)	\$ —	\$ (45,498)
Interest rate contracts	—	(8,887)	—	(8,887)	—	(17,409)	—	(17,409)
Cash conversion option	—	(286,132)	—	(286,132)	—	(382,012)	—	(382,012)
Contingent consideration	—	—	(23,942)	(23,942)	—	—	(23,593)	(23,593)
	<u>\$ —</u>	<u>\$ (306,095)</u>	<u>\$ (23,942)</u>	<u>\$ (330,037)</u>	<u>\$ —</u>	<u>\$ (444,919)</u>	<u>\$ (23,593)</u>	<u>\$ (468,512)</u>

Refer to Note 5 "Investments" for the change in non-marketable equity securities with Level 3 inputs during the three-month periods ended March 31, 2021 and 2020. For contingent consideration liabilities with Level 3 inputs, the following table summarizes the activity for the three-month period ended March 31, 2021:

(in thousands)	2021
Balance at beginning of year	\$ (23,593)
Additions	(349)
Balance at end of period	<u>\$ (23,942)</u>

As of March 31, 2021, of the total \$23.9 million accrued for contingent consideration which is included in accrued and other current liabilities in the accompanying condensed consolidated balance sheet. For the three-month period ended March 31, 2021, the \$0.3 million of additions is related to the time value increases of existing contingent consideration liabilities.

The carrying values of financial instruments, including cash and cash equivalents, short-term deposits, 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 fair values of the financial instruments are presented in Footnote 7 "Debt" and were determined as follows:

Cash Convertible Notes and Convertible Notes: Fair value is based on using available over-the-counter market information on the Cash Convertible Notes due in 2021, 2023 and 2024 as well as the Convertible Notes due in 2027.

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-month periods ended March 31, 2021 and 2020 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 rate 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 first quarters of 2021 and 2020, our effective tax rates were 18.8% and 14.0%, respectively. The effective tax rate in 2021 reflects higher operating income in the current year due primarily to the significant demand for solutions used in COVID-19 testing. 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 in Dubai.

We assess uncertain tax positions in accordance with ASC 740 (ASC 740-10 *Accounting for Uncertainties in Tax*). At March 31, 2021, our gross unrecognized tax benefits totaled approximately \$97.8 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 \$36.3 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 2009 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 2017 tax year. 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 March 31, 2021, 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 March 31, 2021 and December 31, 2020:

(in thousands)	March 31, 2021	December 31, 2020
Raw materials	\$ 65,210	\$ 65,449
Work in process	73,928	74,398
Finished goods	177,142	151,334
Total inventories, net	<u>\$ 316,280</u>	<u>\$ 291,181</u>

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 condensed 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
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).

Share Repurchase Programs

On May 6, 2019, we announced our sixth share repurchase program of up to \$100 million of our common shares. During 2020, we repurchased 1.3 million QIAGEN shares for \$64.0 million (including transaction costs). This program ended on December 17, 2020.

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 March 31, 2021 and December 31, 2020:

(in thousands)	March 31, 2021	December 31, 2020
Net unrealized loss on hedging contracts, net of tax	\$ (8,301)	\$ (23,268)
Net unrealized loss on pension, net of tax	(599)	(599)
Foreign currency effects from intercompany long-term investment transactions, net of tax benefit of \$11.1 million and \$10.7 million in 2021 and 2020, respectively	(26,953)	(25,717)
Foreign currency translation adjustments	(230,392)	(194,238)
Accumulated other comprehensive loss	<u>\$ (266,245)</u>	<u>\$ (243,822)</u>

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 March 31, 2021, we had \$32.7 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 consolidated balance sheet.

Contract assets as of March 31, 2021 and December 31, 2020 totaled \$7.6 million and \$8.5 million, respectively, and are included in prepaid expenses and other current assets in the accompanying 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 as a Service (SaaS) arrangements. As of March 31, 2021 and December 31, 2020, contract liabilities totaled \$71.5 million and \$68.9 million, respectively, of which \$60.2 million and \$57.1 million is included in accrued and other current liabilities, respectively, and \$11.3 million and \$11.8 million is included in other long-term liabilities, respectively. During the three months ended March 31, 2021 and 2020, we satisfied the associated performance obligations and recognized revenue of \$21.4 million and \$21.2 million, respectively, related to advance customer payments previously received.

Disaggregation of Revenue

We disaggregate our revenue based on product type and customer class, product category and geography as shown in the tables below for the three-month periods ended March 31, 2021 and 2020:

(in thousands)	Three Months Ended March 31,	
	2021	2020
Consumables and related revenues	\$ 246,800	\$ 151,381
Instruments	32,522	24,225
Molecular Diagnostics	279,322	175,606
Consumables and related revenues	251,408	174,562
Instruments	36,476	21,929
Life Sciences	287,884	196,491
Total	\$ 567,206	\$ 372,097

(in thousands)	Three Months Ended March 31,	
	2021	2020
Sample technologies	\$ 227,172	154,071
Diagnostic solutions	149,762	95,805
PCR / Nucleic acid amplification	116,686	61,495
Genomics / NGS	50,419	41,827
Other	23,167	18,899
Total	\$ 567,206	\$ 372,097

(in thousands)	Three Months Ended March 31,	
	2021	2020
Americas	\$ 244,324	\$ 173,800
Europe, Middle East and Africa	218,505	128,449
Asia Pacific and Rest of World	104,377	69,848
Total	\$ 567,206	\$ 372,097

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.

The following table for the three-month periods ended March 31, 2021 and 2020 summarizes the information used to compute earnings per common share:

(in thousands, except per share data)	Three months ended	
	March 31,	
	2021	2020
Net income	\$ 129,223	\$ 39,829
Weighted average number of common shares used to compute basic net income per common share	228,266	228,008
Dilutive effect of stock options and restricted stock units	3,885	2,837
Dilutive effect of outstanding warrants	158	1,366
Weighted average number of common shares used to compute diluted net income per common share	232,309	232,211
Outstanding options and awards having no dilutive effect, not included in above calculation	3	38
Outstanding warrants having no dilutive effect, not included in above calculation	20,402	29,717
Basic earnings per common share	\$ 0.57	\$ 0.17
Diluted earnings per common share	\$ 0.56	\$ 0.17

For purposes of considering the 2027 Notes in determining diluted earnings per common share, only an excess of the conversion value over the principal amount would have a dilutive impact using the treasury stock method. Since the 2027 Notes were out of the money and anti-dilutive during the period from January 1, 2021 through March 31, 2021, they were excluded from the diluted earnings per common share calculation in 2021.

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 \$26.6 million based on the achievement of certain revenue and operating results milestones as follows:

(in thousands)	Contingent Cash Payments
2021	\$ 8,850
2022	17,700
	\$ 26,550

Of the \$26.6 million total contingent obligation as discussed further in Note 9 "Financial Instruments and Fair Value Measurements," we have assessed the fair value at March 31, 2021 to be \$23.9 million which is included in accrued and other current 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. We provide for estimated warranty costs at the time of the product sale. We believe our warranty reserves of \$5.1 million and \$4.8 million as of March 31, 2021 and December 31, 2020, 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 March 31, 2021, 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 \$5.2 million as of March 31, 2021 and December 31, 2020, respectively. The estimated amount of a range of possible losses as of March 31, 2021, is between \$4.7 million and \$16.1 million. 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-month period ended March 31, 2021, we granted 0.2 million stock awards compared to 0.9 million stock awards granted for the three-month period ended March 31, 2020.

At March 31, 2021, there was \$72.0 million remaining in unrecognized compensation expense, less estimated forfeitures, related to these awards which will be recognized over a weighted-average period of 2.3 years.

Share-Based Compensation Expense

For the three-month periods ended March 31, 2021 and 2020 was as follows:

(in thousands)	Three months ended	
	March 31,	
	2021	2020
Cost of sales	\$ 638	\$ 641
Research and development	599	1,715
Sales and marketing	3,457	2,885
General and administrative	4,994	3,438
Share-based compensation expense before taxes	9,688	8,679
Less: income tax benefit	2,107	1,843
Net share-based compensation expense	\$ 7,581	\$ 6,836

In the three months ended March 31, 2021, share-based compensation expense reflects an increase in expense as result of an increase in estimated performance achievement.

No compensation cost was capitalized at March 31, 2021 or March 31, 2020 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, 2020 and under the heading "Risk Factors" below.

Results of Operations

Overview

We are a leading global provider of Sample to Insight solutions that enable customers to gain valuable molecular insights from samples containing the building blocks of life. Our sample technologies isolate and process DNA, RNA and proteins from blood, tissue and other materials. Assay technologies make these biomolecules visible and ready for analysis, such as identifying the DNA of a virus or a mutation of a gene. QIAGEN 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 bioinformatics 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 March 31, 2021, we employed approximately 5,750 people in more than 35 locations worldwide.

We expect continued improvements in the non-COVID product group areas of the portfolio during 2021 as well as the demand for COVID-19 test solutions to be in line with year-ago levels in the second quarter of 2021. Investments are planned for research and development and clinical trials to strengthen our five pillars of growth beyond the pandemic, in particular initiatives to enlarge the test menu for the NeuMoDx and QIA-stat-Dx systems in the U.S. and Europe.

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 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

QIAGEN expanding solutions for non-COVID applications

QIAGEN is focused on supporting research and testing efforts beyond the COVID-19 pandemic and continues to manage these portfolios for growth in the coming years. Among recent developments:

- Our **QuantiFERON** portfolio has expanded with the European CE-IVD launch of LIAISON® LymeDetect® assay for the early diagnosis of Lyme Borreliosis, a bacterial disease that can cause long-term and debilitating health issues. QIAGEN and partner DiaSorin worked together to co-develop this new test for use on the LIAISON® XL and LIAISON® XS platforms. This partnership also includes the joint global commercialization of the QuantiFERON-TB Gold test for automation on LIAISON platforms.
- **QIAcube Connect MDx**, an instrument for automated sample processing, is now cleared for use in clinical applications in the U.S., the EU and other markets worldwide. This expansion to clinical customers builds on the long-standing use of QIAcube instruments in research in labs and over 9,800 cumulative QIAcube family placements worldwide.
- **QIASphere**, a cloud-based connectivity solution, was first launched for use with the **QIAstat-Dx** syndromic solution. QIASphere is designed to enable remote digital monitoring and is planned to be expanded for use on other QIAGEN instruments and automation platforms.
- **QIAcuity digital PCR platforms** are seeing a high placement rate with customers worldwide following the launch in late 2020. QIAcuity demonstrated in Q1 2021 real-world utility in oncology research with a new workflow developed in collaboration with Exosome Dx that integrates digital PCR and exosome-based liquid biopsy to detect bladder cancer mutations in urine samples.
- The first companion diagnostic agreement was announced to develop an **NGS assay for use on the Illumina NextSeq™ 550Dx platform**. This assay is part of a new master collaboration with INOVIO to develop liquid biopsy-based solutions to complement INOVIO's targeted therapies.

Accelerating QIAGEN's engagement for the global COVID-19 response

QIAGEN continues to expand its portfolio of COVID-19 testing solutions to address urgent testing needs, many of which have applications beyond the pandemic. Recent updates include:

- **Sample technologies:** The *artus*® SARS-CoV-2 Prep&Amp UM Kit, which uses a liquid-based sample preparation technology to simplify and rapidly scale up COVID-19 testing throughput, has received EUA status in the U.S. and CE-IVD marking in Europe and other markets.
- **PCR testing:** The multiplex PCR test NeuMoDx™ Flu A-B/RSV/SARS-CoV-2 Vantage Assay for use on the NeuMoDx 96 and 288 automation systems received an EUA in March 2021 for use in the U.S. QIAGEN launched in November 2020 this test in the European Union and other CE-IVD markets.
- **Antigen testing:** The QIArearch SARS-CoV-2 Antigen test was resubmitted in March 2021 to the U.S. FDA for EUA after a proactive withdrawal of the first submission. QIAGEN is in discussions with the FDA to gain regulatory clearance as quickly as possible. This test extends the partnership with Ellume, an Australian digital diagnostics company.
- **Universal NGS solutions:** The Ultra-Fast sequencing solution QIAseq DIRECT SARS-CoV-2 Kit was launched for high-throughput genomic surveillance. This solution reduces turnaround times and plastics use compared with other NGS-based solutions for characterization of SARS-CoV-2 genomes.

Three- Month Periods Ended March 31, 2021 compared to Three- Month Periods Ended March 31, 2020

Net Sales

(in millions)	First quarter 2021		First quarter 2020		% change
	Net sales	% of net sales	Net sales	% of net sales	
Non-COVID-19 and COVID-19 products					
Non-COVID-19 products	\$ 364.0	64%	\$ 302.9	81%	+20%
COVID-19 products	203.2	36%	69.2	19%	+194%
Net Sales	\$ 567.2		\$ 372.1		+52%
Product type					
Consumables and related revenues	\$ 498.2	88%	\$ 325.9	88%	+53%
Instruments	69.0	12%	46.2	12%	+49%
Net Sales	\$ 567.2		\$ 372.1		+52%
Customer class					
Molecular Diagnostics	\$ 279.3	49%	\$ 175.6	47%	+59%
Life Sciences	287.9	51%	196.5	53%	+47%
Net Sales	\$ 567.2		\$ 372.1		+52%

Trends in non-COVID-19 products remained strong into the first quarter of 2021 with growth led by sample technologies and QuantiFERON-TB returning to pre-pandemic sales levels. Net sales were positively impacted by almost five percentage points from favorable currency movements against the U.S. dollar.

(in millions)	First quarter 2021		First quarter 2020		% change
	Net sales	% of net sales	Net sales	% of net sales	
Product group					
Sample technologies	\$ 227.2	40%	\$ 154.1	41%	+47%
Diagnostic solutions	149.8	26%	95.8	26%	+56%
PCR / Nucleic acid amplification	116.7	21%	61.5	17%	+90%
Genomics / NGS	50.4	9%	41.8	11%	+21%
Other	23.2	4%	18.9	5%	+23%
Net Sales	\$ 567.2		\$ 372.1		+52%

Sample technologies represents products involved in the first step in any molecular lab process. Sales were driven by demand for non-COVID products, particularly consumables kits for DNA extraction, which have frequently recurring sales. Ongoing strong demand for COVID-19 solutions, in particular automated RNA solutions and contributions from the QIAprep& solution that was launched in the fourth quarter of 2020.

Diagnostic solutions includes molecular testing platforms and products as well as Precision Medicine and companion diagnostic co-development revenues. Growth in the first quarter reflected 25% growth in QuantiFERON-TB sales, led by the Americas with a return to growth levels experienced prior to the pandemic. QuantiFERON-TB sales were positively impacted by three percentage points from favorable currency movements against the U.S. dollar. Sales for the QIAstat-Dx and NeuMoDx automated PCR testing solutions experienced strong performance over the year-ago period on a mix of COVID-19 testing and use for other applications. Higher

revenues from companion diagnostic co-development agreements compared to the prior year were also supported by higher sales of kits used for precision medicine applications.

PCR / Nucleic acid amplification involves research and applied PCR solutions and components. Solid growth for instruments including the new QIAcuity digital PCR instruments and the Rotor-Gene-Q PCR cyclers and in consumables. COVID-19 demand for OEM solutions and enzymes used in third-party diagnostic kits also contributed to growth.

Genomics / NGS includes universal NGS solutions as well as the full QIAGEN Digital Insights portfolio. Improving sentiment continued into the first quarter of 2021 as increases were experienced for both lab consumables and QIAGEN Digital Insights bioinformatics solutions, particularly in non-COVID clinical areas such as oncology. Universal NGS sales were supported by continued orders of QIAseq library preparation portfolio, enhanced by demand to detect viral variants in COVID-19 samples.

(in millions) Geographic region	First quarter 2021		First quarter 2020		% change
	Net sales	% of net sales	Net sales	% of net sales	
Americas	\$ 244.3	43%	\$ 173.8	47%	+41%
Europe, Middle East and Africa	218.5	39%	128.4	35%	+70%
Asia Pacific, Japan and Rest of World	104.4	18%	69.8	19%	+49%
Net Sales	\$ 567.2		\$ 372.1		+52%

Growth in the Americas was underpinned by a strong performance in the U.S. including gains in QuantiFERON-TB sales, as well as across both customer classes in Mexico and Brazil. The Europe, Middle East and Africa region continued trends from 2020 as the region delivering the highest growth, with COVID-19 testing remaining at a high level. Performance was driven by gains across both customer classes in Germany, France, Italy and the United Kingdom. Results in Asia Pacific and Japan were driven by growth in China at 81% compared to the first quarter of 2020 along with improving trends in India and South Korea as laboratories continue to increase work in non-COVID related areas. China sales were positively impacted by eleven percentage points from favorable currency movements against the U.S. dollar.

Gross Profit

(in millions)	First quarter 2021	First quarter 2020	% change
Gross Profit	\$ 370.6	\$ 243.5	+52%
Gross Margin	65.3 %	65.5 %	

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. While net sales from consumables and instruments as a percentage of sales remained stable, the gross margin in the three months ended March 31, 2021 reflects the impact of lower instrument margins when compared to the first quarter of 2020. In the first quarter of 2021, the amortization expense on acquisition-related intangibles within cost of sales increased to \$17.6 million compared to \$15.1 million in the same period of 2020. Our acquisition-related intangible amortization will increase in the event of future acquisitions.

Operating Expenses

Research and Development

(in millions)	First quarter 2021	First quarter 2020	% change
Research and development	\$ 47.4	\$ 34.8	+36%
% of net sales	8.4 %	9.4 %	

The overall increase in research and development costs in 2021 includes \$2.8 million of unfavorable currency exchange impact and is the result of the efforts focused on the five pillars of growth including investments in NeuMoDx, QIAstat-Dx and QIAcuity. These investments are being made to both expand the use of key solutions for use once the pandemic has subsided in addition to addressing the ongoing COVID-19 testing demand including the ability to detect emerging viral variants. In 2020, research and development costs reflect the suspended development of NGS-related instrument systems in connection with the 2019 restructuring measures discussed in Note 4. 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

(in millions)	First quarter 2021	First quarter 2020	% change
Sales and marketing	\$ 113.8	\$ 95.8	+19%
% of net sales	20.1 %	25.7 %	

Sales and marketing expenses are primarily associated with personnel, commissions, advertising, trade shows, publications, freight and logistics expenses, and other promotional expenses. The increase reflects additional sales and marketing efforts in the first quarter of 2021 as compared to 2020, includes \$4.6 million of unfavorable currency exchange impact, and reflects a focus on the five pillars of growth as well as increases in freight and other supply chain costs in line with the increase in sales. 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

(in millions)	First quarter 2021	First quarter 2020	% change
General and administrative	\$ 33.8	\$ 28.2	+20%
% of net sales	6.0 %	7.6 %	

The increases in general and administrative expenses reflect continued investments in information technology systems, including cyber security, across the organization as well as an increase in share-based compensation and personnel expenses due in part to performance achievements due to sales volume increases.

Acquisition-Related Intangible Amortization

(in millions)	First quarter 2021	First quarter 2020	% change
Acquisition-related intangible amortization	\$ 5.4	\$ 5.1	+6%
% of net sales	1.0 %	1.4 %	

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. Our acquisition-related intangible amortization recorded in operating expenses will increase in the event of future acquisitions.

Restructuring, Acquisition, Integration and Other, net

(in millions)	First quarter 2021	First quarter 2020	% change
Restructuring, acquisition, integration and other, net	\$ 6.4	\$ 11.4	-44%
% of net sales	1.1 %	3.1 %	

Restructuring, acquisition, integration and other, net expenses totaled \$6.4 million during the three-months ended March 31, 2021 primarily associated with the continued integration of NeuMoDx. During the three-months ended March 31, 2020, \$11.4 million of expenses were incurred associated with the unsuccessful acquisition attempt by Thermo Fisher and 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 three-months ended March 31, 2020 totaled \$1.0 million and were incurred in connection with the 2019 restructuring measures as further discussed in Note 4 "Restructuring and Impairments".

Other Expense, net

(in millions)	First quarter 2021	First quarter 2020	% change
Interest income	\$ 1.6	\$ 3.2	-49%
Interest expense	(13.5)	(18.9)	-28%
Other income (expense), net	7.2	(5.2)	
Total other expense, net	\$ (4.7)	\$ (21.0)	-78%

Interest income includes interest earned on cash, cash equivalents and short-term investments, income related to certain interest rate derivatives as discussed in Note 8 "Derivatives and Hedging" and other components including the interest portion of operating lease transactions. The decrease in 2021 is partially attributable to the decreased level of short-term investments held during the period.

Interest expense primarily relates to debt, discussed in Note 7 "Debt" in the accompanying notes to the condensed consolidated financial statements. The decrease in 2021 is driven by the repayment of the majority of the 2021 Notes after the first quarter of 2020.

Other income, net in the three-month period ended March 31, 2021 includes a \$5.6 million gain recognized from the sale of the Invitae shares and related hedge in addition to \$1.9 million of income from equity method investments. Other expense, net in the three-month period ended March 31, 2020 includes \$2.3 million of net losses on foreign currency transactions as well as the \$2.3 million loss recognized upon the sale of an investment in equity securities discussed further in Note 5.

Provision for Income Taxes

(in millions)	First quarter 2021	First quarter 2020	% change
Income before income taxes	\$ 159.1	\$ 46.3	+243%
Income tax expense	29.9	6.5	+360%
Net income	<u>\$ 129.2</u>	<u>\$ 39.8</u>	
Effective tax rate	18.8 %	14.0 %	

Our effective tax rate differs 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 first quarters of 2021 and 2020, our effective tax rates were 18.8% and 14.0%, respectively. The effective tax rate in 2021 reflects higher operating income in the current year due primarily to the significant demand for solutions used in COVID-19 testing. 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 in Dubai.

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, 2020.

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 March 31, 2021, we had cash and cash equivalents of \$787.8 million and short-term investments of \$3.9 million. As of December 31, 2020, we had cash and cash equivalents of \$598.0 million and short-term investments of \$117.2 million. 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 March 31, 2021, cash and cash equivalents had increased by \$189.8 million from December 31, 2020, primarily as a result of cash provided by operating activities of \$128.6 million and cash provided by investing activities of \$106.0 million, partially offset by cash used in financing activities of \$40.9 million. As of March 31, 2021 and December 31, 2020, we had working capital of \$1.17 billion and \$1.05 billion, respectively.

Cash Flow Summary

(in millions)	First quarter 2021	First quarter 2020
Net cash provided by operating activities	\$ 128.6	\$ 15.9
Net cash provided by investing activities	\$ 106.0	\$ 13.1
Net cash (used in) provided by financing activities	\$ (40.9)	\$ 9.4
Effect of exchange rate changes on cash, cash equivalents and restricted cash	\$ (3.9)	\$ (6.0)
Net increase in cash, cash equivalents and restricted cash	\$ 189.8	\$ 32.4

Operating Activities. For the three months ended March 31, 2021 and March 31, 2020, we generated net cash from operating activities of \$128.6 million and \$15.9 million, respectively. While net income was \$129.2 million for the three months ended March 31, 2021, non-cash components in income included \$55.6 million of depreciation and amortization, \$7.9 million of amortization of debt discount and issuance costs and \$9.7 million of share-based compensation expense. Operating cash flows include a net decrease in working capital of \$40.6 million excluding changes in fair values of derivative instruments. The current period change in working capital is primarily due to increased inventories to meet the increase in demand and decreased accrued and other liabilities and accounts payable during the first quarter of 2021. 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 \$106.0 million of cash was provided by investing activities during the three months ended March 31, 2021 compared to \$13.1 million for the same period in 2020. Cash provided by investing activities includes \$117.9 million from the sale of Invitae shares and \$44.9 million received for collateral assets, partially offset by \$46.3 million paid for purchases of property, plant and equipment and \$8.6 million for the purchases of intangible assets. Cash provided by investing activities during the three months ended March 31, 2020 includes \$65.0 million from proceeds from redemption of short-term investments partially offset by \$24.9 million in purchases of short-term investments, \$20.0 million purchases of property, plant or equipment and \$7.9 million paid for intangible assets.

Financing Activities. Net cash used in financing activities was \$40.9 million of cash for the three months ended March 31, 2021, primarily due repayments of long-term debt including \$41.1 million for two tranches of the German Private Placement (Schuldschein) that matured as well as \$0.2 million for the remaining 2021 Notes. Financing activities provided \$9.4 million of cash for the three months ended March 31, 2020, primarily due to \$10.2 million of cash received for collateral liabilities.

Other Factors Affecting Liquidity and Capital Resources

As of March 31, 2021, we carry \$1.9 billion of long-term debt, of which no amount is current.

In December 2020, we issued \$500.0 million aggregate principal amount of zero coupon Convertible Notes due in 2027 (2027 Notes). The 2027 Notes will mature on December 17, 2027 unless converted in accordance with their terms prior to such date as described more fully in Note 7 "Debt".

In November 2018, we issued \$500.0 million aggregate principal amount of Cash Convertible Senior Notes which are due in 2024 (2024 Notes). 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). 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 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. During the three months ended March 31, 2021, we paid \$41.1 million when two tranches matured as described more fully in Note 7 "Debt".

In March 2014, we issued Cash Convertible Senior Notes of which the remaining \$0.2 million was paid during the three months ended March 31, 2021.

In October 2012, we completed a U.S. private placement with three series at a weighted average interest rate of 3.66%. The following two series remain outstanding at March 31, 2021: (1) \$300 million 10-year term due in 2022 (3.75%); and (2) \$27 million 12-year term due in 2024 (3.90%).

In December 2020, we obtained a €400 million syndicated revolving credit facility with a contractual life of three years with the ability to extend by one year two times. No amounts were utilized at March 31, 2021. The facility can be utilized in Euro and bears interest of 0.525% to 1.525% above EURIBOR, and is offered with interest periods of one, three or six months. The interest rate is linked to our environmental, social and governance (ESG) performance. We have additional credit lines totaling €27 million with no expiration date, none of which were utilized as of March 31, 2021.

In connection with certain acquisitions, we could be required to make additional contingent cash payments totaling up to \$26.6 million based on the achievement of certain revenue and operating results milestones as further discussed in Note 15 "Commitments and Contingencies."

In May 2019, we announced our sixth share repurchase program of up to \$100 million of our common shares. During 2020, we repurchased 1.3 million QIAGEN shares for \$64.0 million (including transaction costs). This program ended in December 2020. Repurchased shares will be held in treasury in order to satisfy various obligations, which include employee share-based remuneration plans.

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, the issuance of additional equity or debt financing.

We believe that funds from operations, existing cash and cash equivalents, together with the proceeds from any public and private sales of equity, 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. 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, 2020.

Foreign Currency

QIAGEN N.V.'s functional currency is the U.S. dollar and most of our subsidiaries' functional currencies are the local currencies of the countries in which they are headquartered. 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-month periods ended March 31, 2021 resulted in a net loss of \$1.7 million compared to \$2.3 million in the same period of 2020 and are included in other income (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, 2020. 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 March 31, 2021 and December 31, 2020.

Contractual Obligations

There were no material changes at March 31, 2021 from the contractual obligations disclosed in Item 5 of our Annual Report on Form 20-F for the year ended December 31, 2020.

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 Annual Report on Form 20-F for the year ended December 31, 2020. There have been no material changes from the risk factors disclosed in Item 3 of our Form 20-F.
