

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 20-F**

- REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934
or
 ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 For the fiscal year ended December 31, 2020
or
 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 For the transition period from to
or
 SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 Date of event requiring this shell company report

Commission File Number 001-38332



QIAGEN N.V.
(Exact name of Registrant as specified in its charter)

n/a

(Translation of Registrant's name in English)

The Netherlands

(Jurisdiction of incorporation or organization)

Hulsterweg 82

5912 PL Venlo

The Netherlands

011-31-77-355-6600

(Address of principal executive offices)

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(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

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

Title of class:	Trading Symbol	Name of each exchange on which registered:
Common Shares, par value EUR 0.01 per share	QGEN	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

The number of outstanding Common Shares as of December 31, 2020 was 227,985,334.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

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

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

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

Large accelerated filer Accelerated filer Non-accelerated filer Emerging Growth Company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards* provided pursuant to Section 13(a) of the Exchange Act.

* The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effective of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

- U.S. GAAP
- International Financial Reporting Standards as issued by the International Accounting Standards Board
- Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow: Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Unless the context otherwise requires, references herein to “we,” “us,” “our,” the “Company” or to “QIAGEN” are to QIAGEN N.V. and its consolidated subsidiaries. Totals within tables presented in U.S. dollar millions may contain rounding differences.

EXCHANGE RATES

QIAGEN publishes its financial statements in U.S. dollars. In this Annual Report on Form 20-F, references to “dollars” or “\$” are to U.S. dollars, and references to “EUR” or the “euro” are to the European Monetary Union euro. Except as otherwise stated herein, all monetary amounts in this Annual Report on Form 20-F have been presented in U.S. dollars.

The exchange rate used for the euro was obtained from the European Central Bank and is based on a regular daily concentration procedure between central banks across Europe and worldwide, which normally takes place at 2:15 P.M. Central European Time. This rate at February 26, 2021, was \$1.2121 per €1.

For information regarding the effects of currency fluctuations on our results, see Item 5 “Operating and Financial Review and Prospects.”

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PART I

Item 1. Identity of Directors, Senior Management and Advisors

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

QIAGEN N.V. is registered under its commercial and legal name with the trade register (*kamer van koophandel*) of the Dutch region Limburg Noord under file number 12036979. QIAGEN N.V. is incorporated under Dutch law as a public limited liability company (*naamloze vennootschap*) and is organized as a holding company.

The selected consolidated financial data below should be read in conjunction with “Operating and Financial Review and Prospects” and the Consolidated Financial Statements, including the notes and other financial information included in this Annual Report on Form 20-F. The selected financial data below is derived from the consolidated statements of income (loss) for the years ended December 31, 2020, 2019 and 2018 and the consolidated balance sheets at December 31, 2020 and 2019 of QIAGEN that have been audited by an independent registered public accounting firm, and are included in this Annual Report. The selected data from the consolidated statements of income (loss) presented for the years ended December 31, 2017 and 2016, and the consolidated balance sheets as of December 31, 2018, 2017 and 2016, is derived from audited consolidated financial statements not included in this Annual Report.

Selected Financial Data

The information below should be read in conjunction with the Consolidated Financial Statements (and accompanying notes) and "Operating and Financial Review and Prospects."

Consolidated Statements of Income (Loss) Data: (amounts in millions, except per share data)	Years ended December 31,				
	2020	2019	2018	2017	2016
Net sales	\$ 1,870.3	\$ 1,526.4	\$ 1,501.8	\$ 1,417.5	\$ 1,338.0
Cost of sales	637.6	521.2	500.9	495.0	493.3
Gross profit	1,232.7	1,005.3	1,001.0	922.6	844.7
Operating expenses:					
Research and development	149.1	157.4	161.9	154.1	149.8
Sales and marketing	413.7	391.9	392.3	375.6	376.3
General and administrative, restructuring, integration, long-lived asset impairments and other	262.7	452.1	141.2	200.1	180.6
Acquisition-related intangible amortization	20.8	30.0	39.0	39.4	39.1
Total operating expenses	846.3	1,031.4	734.4	769.1	745.8
Income (loss) from operations	386.4	(26.1)	266.6	153.4	98.8
Other income (expense)	53.0	(51.6)	(40.8)	(39.0)	(41.9)
Income (loss) before income taxes	439.5	(77.8)	225.7	114.4	56.9
Income taxes	80.3	(36.3)	35.4	74.0	(23.4)
Net income (loss)	359.2	(41.5)	190.4	40.4	80.3
Net loss attributable to noncontrolling interest	—	—	—	—	(0.1)
Net income (loss) attributable to QIAGEN N.V.	\$ 359.2	\$ (41.5)	\$ 190.4	\$ 40.4	\$ 80.4
Basic net income (loss) per common share attributable to the owners of QIAGEN N.V. ⁽¹⁾	\$ 1.57	\$ (0.18)	\$ 0.84	\$ 0.18	\$ 0.34
Diluted net income (loss) per common share attributable to the owners of QIAGEN N.V. ⁽¹⁾	\$ 1.53	\$ (0.18)	\$ 0.82	\$ 0.17	\$ 0.34
Weighted-average common shares outstanding					
Basic	228.4	226.8	226.6	228.1	234.8
Diluted	234.2	226.8	233.5	233.0	239.0

(1) See Note 19 "Earnings per Common Share" of the "Notes to Consolidated Financial Statements" for the computation of the weighted average number of Common Shares.

Consolidated Balance Sheet Data: (amounts in millions)	As of December 31,				
	2020	2019	2018	2017	2016
Cash and cash equivalents	\$ 598.0	\$ 623.6	\$ 1,159.1	\$ 657.7	\$ 439.2
Working capital ⁽¹⁾	\$ 1,052.2	\$ 618.9	\$ 1,182.9	\$ 1,323.2	\$ 729.1
Total assets	\$ 5,912.5	\$ 5,235.6	\$ 5,748.3	\$ 5,038.5	\$ 4,308.2
Total long-term liabilities, including current portion of long-term debt	\$ 2,542.1	\$ 2,032.9	\$ 2,644.4	\$ 2,174.1	\$ 1,393.7
Total equity	\$ 2,797.8	\$ 2,536.6	\$ 2,635.0	\$ 2,541.0	\$ 2,607.1
Common shares, par value	\$ 2.7	\$ 2.7	\$ 2.7	\$ 2.7	\$ 2.8
Common shares issued	230.8	230.8	230.8	230.8	239.7
Common shares outstanding	228.0	227.8	225.5	226.6	234.6

(1) Working capital is current assets less current liabilities.

Risk Factors

Risk Management:

Our risk management approach embodies the key elements of a sound risk management system including (1) active Supervisory Board and senior management involvement; (2) adequate policies and procedures; (3) adequate risk management; monitoring and information systems; and (4) comprehensive internal controls.

QIAGEN is managed by a Managing Board and an independent Supervisory Board appointed by the General Meeting of Shareholders. One of the Managing Board's responsibilities is the oversight of the risk management system. The Managing Board has developed and implemented strategies, controls and mitigation measures to identify current and developing risks as part of the risk management system. These policies and procedures are embodied in our corporate governance, code of ethics and financial reporting controls and procedures. A variety of functional experts evaluate these business risks, attempting to mitigate and manage these risks on an ongoing basis.

Identified risks are subdivided into three types:

- A base business risk that is specific to us or our industry and threatens our existing business;
- A business growth risk that is specific to us or our industry and threatens our future business growth; and
- An underlying business risk that is not specific to us or our industry, but applies to a larger number of public companies.

All identified risks are evaluated based on their likelihood of occurring and their potential impact (estimated in monetary terms) in disrupting our progress in achieving our business objectives. The overall risk management goal is to identify risks that could significantly threaten our success and to allow management on a timely basis the opportunity to successfully implement mitigation actions. The results of the risk assessment, and any updates, are reported to the Audit Committee of the Supervisory Board on a regular basis. A detailed risk reporting update is provided each quarter to the Audit Committee for specific risks that have been newly identified or have changed since the previous assessment. At least once on an annual basis, the Supervisory Board discusses the corporate strategy and business risks as well as the results of an assessment by the Managing Board and the Audit Committee of the structure and operations of the internal risk management and control systems, including any significant changes.

Our corporate governance structure is based on a strong framework that outlines the responsibilities of our Managing and Supervisory Boards (discussed in more detail in Item 10 of this Annual Report) and the function of the Audit Committee of the Supervisory Board (discussed in more detail in Item 6 of this Annual Report). We maintain adequate internal controls over financial reporting to ensure the integrity of financial reporting, which is described further in Item 15 of this Annual Report. Additionally, we have a Compliance Committee that consists of senior executives from various functional areas who are responsible for ensuring compliance with legal and regulatory requirements, as well as overseeing the communication of corporate policies, including our Code of Ethics as described further in Item 16B of this Annual Report.

Risk Types	
Base Business Risk	<ul style="list-style-type: none">• Identification and monitoring of competitive business threats• Monitoring complexity of product portfolio• Monitoring dependence on key customers for single product groups• Reviewing dependence on individual production sites or suppliers• Evaluating purchasing initiatives, price controls and changes to reimbursements• Monitoring production risks, including contamination prevention, high-quality product assurance• Ensuring ability to defend against intellectual property infringements and maintain competitive advantage after expiration
Business Growth Risk	<ul style="list-style-type: none">• Managing development and success of key R&D projects• Managing successful integration of acquisitions to achieve anticipated benefits
Underlying Business Risk	<ul style="list-style-type: none">• Evaluating financial risks, including economic risks and currency rate fluctuations• Monitoring financial reporting risks, including multi-jurisdiction tax compliance• Reviewing possible asset impairment events• Assessing compliance and legal risks, including safety in operations and environmental hazard risks, compliance with various regulatory bodies and pending product approvals• Monitoring risks of FCPA (Foreign Corrupt Practices Act) or antitrust concerns arising from a network of subsidiaries and distributors in foreign countries

The risks described below are listed in the order of our current view of their expected significance. Describing the risk factors in order of significance does not imply that a lower listed risk factor may not have a material adverse impact on our results of operations, liquidity or capital resources.

Our continued growth is dependent on the development and success of new products.

Rapid technological change and frequent new product introductions are typical in the markets we serve. Our success will depend in part on continuous, timely development and introduction of new products that address evolving market requirements, for example products in response to SARS-CoV-2. We believe successful new product introductions provide a significant competitive advantage because customers make an investment of time in selecting and learning to use a new product and are reluctant to switch after these efforts. To the extent that we fail to introduce new and innovative products, or such products suffer significant delays in development or are not accepted in the market, we may lose market share to our competitors that would be difficult or impossible to regain. An inability to successfully develop and introduce new products, for technological or other reasons, could reduce our growth rate or otherwise have an adverse effect on our business. In the past, we have experienced delays in the development and introduction of products, including regulatory approvals, or decisions to stop development of projects, and we may experience delays or make decisions to stop certain products in the future.

As a result, we cannot assure you that we will keep pace with the rapid rate of change in our markets or that our new products will adequately meet the requirements of the marketplace, achieve market acceptance or regulatory approval, or compete successfully with companies offering similar or new technologies. Some of the factors affecting market acceptance of new products include:

- availability, quality and price relative to existing competitor products;
- the timing of introduction of the new product relative to competitive products;
- opinions of the new product's utility;
- citation of the new product in published research;
- regulatory trends and approvals; and
- general trends in life sciences research, applied markets and molecular diagnostics.

In the development of new products we may make significant investments in intellectual property, software solutions and manufacturing capacity. These investments increase our fixed costs, resulting in higher operational costs in the short term that will negatively impact our gross profit and operating income until products potentially reach a minimum level of market acceptance. The expenses or losses associated with unsuccessful product development activities or lack of market acceptance of our new products could materially adversely affect our business, financial condition and results of operations.

Our continued growth depends significantly on the success of new products in the molecular testing markets we serve and our ability to scale manufacturing capacities to meet customer demands. Important product programs include our modular medium-throughput QIAsymphony automation platform, QIAstat-Dx system for one-step, fully integrated molecular analysis of hard-to-diagnose syndromes, the high-throughput NeuMoDx 288 and mid-throughput NeuMoDx 96 fully integrated PCR automation systems, sample and assay technologies designed for use with QIAGEN instruments or with "universal" automation systems and instruments, and bioinformatics solutions to analyze and interpret complex genomic data. In addition, in 2020 we launched the QIAcuity digital PCR series of platforms with fully-integrated solutions that simplify digital PCR workflows.

The speed and level of adoption of our new automation platforms will affect sales not only of instrumentation but also of consumables – sample and assay kits – designed to run on the systems. The rollouts of new automation platforms are intended to drive the dissemination and increasing sales of consumables for these systems. We are developing or co-developing new kits for each of these platforms and seeking regulatory approvals for a number of these new products. In turn, the availability and regulatory approval of more tests for processing on QIAsymphony, QIAstat-Dx and NeuMoDx systems, especially molecular assays for specific diseases or companion diagnostics paired with new drugs, will influence the value of the instruments to prospective buyers. Slower adoption of QIAsymphony, including the complete QIAsymphony RGQ system, the QIAstat-Dx, NeuMoDx and QIAcuity systems, could significantly affect sales of products designed to run on these platforms.

An inability to manage our growth, manage the expansion of our operations, or successfully integrate acquired businesses could adversely affect our business.

Our business has grown in recent years, with total net sales increasing to \$1.87 billion in 2020 from \$1.34 billion in 2016. We have made a series of acquisitions in recent years, including the acquisitions of NeuMoDx Molecular, Inc. in 2020, N-of-One in January 2019, STAT-Dx Life, S.L. in 2018, and OmicSoft Corporation in 2017, to complement internal research and development activities. We intend to identify and acquire other businesses in the future that support our strategy to build on our global leadership position in Sample to Insight solutions focused on molecular testing. The successful integration of acquired businesses requires a significant effort and expense across all operational areas.

We continue to make investments to expand our existing business operations. These projects increase our fixed costs, resulting in higher operational costs in the short term that will negatively impact our gross profit and operating income until we more fully utilize the additional capacity of these facilities. In addition, we have invested in establishing and expanding shared service centers in Poland and the Philippines, opening new commercial operations in emerging markets to expand our

geographic footprint, and implementing digitization of business processes to increase sales growth while also enhancing operational efficiencies. The expansion of our business and the addition of new personnel may place a strain on our management and operational systems. As we continue to upgrade our operating and financial systems, as well as expand the geographic presence of our operations, we intend to continue to assess the need to reallocate existing resources or hire new employees, as well as increase responsibilities for both existing and new management personnel.

Our future operating results will depend on our ability to continue to implement and improve our research, product development, manufacturing, sales and marketing and customer support programs, enhance our operational and financial control systems, expand, train and manage our employee base, integrate acquired businesses, and effectively address new issues related to our growth as they arise. There can be no assurance that we will be able to manage our recent or any future expansion or acquisitions successfully, and any inability to do so could have a material adverse effect on our results of operations.

Our acquisitions expose us to new risks, and we may not achieve the anticipated benefits of acquisitions of technologies and businesses.

During the past several years, we have acquired and integrated a number of companies through which we have gained access to new technologies, products and businesses that complement our internally developed product lines. In the future, we expect to acquire additional technologies, products or businesses to expand our operations. Acquisitions expose us to new operating and financial risks, including risks associated with the:

- assimilation of new products, technologies, operations, sites and personnel;
- integration and retention of fundamental personnel and technical expertise;
- application for and achievement of regulatory approvals or other clearances;
- diversion of resources from our existing products, business and technologies;
- generation of sales;
- implementation and maintenance of uniform standards and effective controls and procedures;
- exposure to cyber security risks or compromise of acquired entities;
- maintenance of relationships with employees, customers and suppliers, and integration of new management personnel;
- issuance of dilutive equity securities;
- incurrence or assumption of debt and contingent liabilities;
- amortization or impairment of acquired intangible assets or potential businesses; and
- exposure to liabilities of and claims against acquired entities or personnel, including patent litigation.

Our failure to address the above risks successfully in the future may prevent us from achieving the anticipated benefits from any acquisition in a reasonable time frame, or at all.

Global economic conditions could adversely affect our business, results of operations and financial condition.

Our results of operations could be materially affected by adverse general conditions in the global economy and financial markets. Potentially adverse changes that may come from the United Kingdom's exit from the European Union ("Brexit") are not fully understood, as the actual impact from Brexit will depend on many factors, including the ability of both the United Kingdom and European Union authorities to provide a path forward with minimal disruption. In the near term we anticipate the largest potential exposures to be on supply chain with our United Kingdom-based suppliers and the local operations for our domestic United Kingdom business and pharma development activities. There also is a risk of loss of revenue, penalties due to delayed deliveries and currency losses, or other unforeseen costs which would negatively impact margins.

During challenging economic times, access to financing in the global financial markets has also been adversely affected for many businesses. The uncertainty surrounding the resolution of the economic and sovereign debt crisis in Europe continues to have a negative impact on financial markets and economic conditions more generally. Our customers may face internal financing pressures that adversely impact spending decisions or the ability to purchase our products, or that lead to a delay in collection of receivables and thus negatively impact our cash flow. A severe or prolonged economic downturn could result in a variety of risks to our business that would adversely impact our results of operations, including the reduction or delay in planned improvements to healthcare systems in various countries, the reduction of funding for life sciences research, and intensified efforts by governments and healthcare payors regarding cost-containment efforts.

Our results of operations could also be negatively impacted by any governmental actions or inaction resulting in automatic government spending cuts (sequestration) that may take effect, particularly in terms of federal government funding in the United States. These conditions may add uncertainty to the timing and budget for investment decisions by our customers, particularly researchers, universities, government laboratories and private foundations whose funding is dependent upon grants from government agencies, such as the U.S. National Institutes of Health (NIH) and similar bodies.

As is the case for many businesses, we face the following risks in regard to financial markets:

- severely limited access to financing over an extended period of time, which may affect our ability to fund our growth strategy and could result in delays to capital expenditures, acquisitions or research and development projects;
- failures of currently solvent financial institutions, which may cause losses from our short-term cash investments or our hedging transactions due to a counterparty's inability to fulfill its payment obligations;
- inability to refinance existing debt at competitive rates, reasonable terms or sufficient amounts; and
- increased volatility or adverse movements in foreign currency exchange rates.

Our global operations may be affected by actions of governments, global or regional economic or public health developments, weather or transportation delays, natural disasters or other force majeure events (collectively, unforeseen events) which may negatively impact our suppliers, our customers or us.

Our business involves operations around the world. Our primary consumable manufacturing facilities are located in Germany, the U.S. and China. We have established sales subsidiaries in numerous countries and our products are sold through independent distributors serving more than 40 additional countries. Our global footprint exposes us to unforeseen events, such as the December 2019 outbreak of the novel coronavirus (COVID-19) and the resulting global pandemic. Our facilities may be harmed by unforeseen events, and in the event that we or our customers are affected by a disaster, we may experience delays or reductions in sales or production, increased costs, or we may be required to identify alternate suppliers and/or rely on third-party manufacturers.

To the extent that our suppliers are impacted by a natural disaster or other disruption, we may experience periods of reduced production. Any unexpected interruptions in our production capabilities may lead to delayed or lost sales and may adversely affect our results of operations for the affected period.

In addition, to the extent we temporarily shut down any facility following such an unforeseen event, we may experience disruptions in our ability to manufacture or ship products to customers or otherwise operate our business. Many of our products are manufactured in a single location and we may experience adverse effects to the extent these manufacturing operations are disrupted. While our global operations give us the ability to ship product from alternative sites, we may not be able to do so because our customers' facilities are shut down or the local logistics infrastructure is not functioning, and our sales will suffer.

Damage to our property due to unforeseen events and the disruption of our business may be covered by insurance, but this insurance may not be sufficient to cover all of our potential losses, and such insurance may not continue to be available to us on acceptable terms, or at all. In addition, we may incur incremental costs following an unforeseen event, which will reduce profits and adversely affect our results of operations.

We depend on suppliers for materials used to manufacture our products, and if shipments from these suppliers are delayed or interrupted, we may be unable to manufacture our products.

We buy materials to create our products from a number of suppliers and are not dependent on any one supplier or group of suppliers for our business as a whole. However, key components of certain products, including certain instrumentation and chemicals, are available only from a single source. If supplies from these vendors are delayed or interrupted for any reason, we may not be able to obtain these materials in a timely manner or in sufficient quantities or qualities to produce certain products, and this could have an adverse impact on our results of operations.

We rely heavily on air cargo carriers and other overnight logistics services, and shipping delays or interruptions could harm our business.

Our customers in the scientific research markets typically keep only a modest inventory of our products on hand, and consequently require overnight delivery of purchases. As a result, we rely heavily on air cargo carriers and logistic suppliers. If overnight services are suspended or delayed, and other delivery carriers and logistic suppliers cannot provide satisfactory services, customers may suspend a significant amount of their work. The lack of adequate delivery alternatives would have a serious adverse impact on our results of operations.

Changes in tax laws or their application or the termination or reduction of certain government tax incentives, could adversely impact our overall effective tax rate, results of operations or financial flexibility.

Our effective tax rate reflects the benefit of some income being partially exempt from income taxes due to various intercompany operating and financing activities. The benefit also derives from our global operations, where income or loss in some jurisdictions is taxed at rates higher or lower than The Netherlands' statutory rate of 25%. Changes in tax laws or their application with respect to matters such as changes in tax rates, transfer pricing and income allocation, utilization of tax loss carryforwards, intercompany dividends, controlled corporations, and limitations on the deductibility of interest and foreign related-party expenses, and changes to tax credit mechanisms, could increase our effective tax rate and adversely affect our

results of operations and limit our ability to repurchase our Common Shares without experiencing adverse tax consequences. The increased tax burden as a result of changes in law may adversely affect our results of operations. Additionally, if our tax positions are challenged by tax authorities or other governmental bodies, such as the European Commission, we could incur additional tax liabilities, which could have an adverse effect on our results of operations, financial flexibility or cash flow.

We rely on secure communication and information systems and are subject to privacy and data security laws which, in the event of a disruption, breach, violation or failure, could adversely affect our business.

We rely heavily on communications and information systems to conduct our business. In the ordinary course of business, we collect and store sensitive data, including our own intellectual property and other proprietary business information and that of our customers, suppliers and business partners, as well as personally identifiable information of our customers and employees, in our data centers and on our networks or in the cloud. Our operations rely on the secure processing, storage and transmission of confidential and other information on both our own, or cloud-based, computer systems and networks. We have made significant investments to ensure our employees are aware of cyber security risks facing our company and how to prevent data breaches. We have modernized our cyber security tools, and are continually modernizing our cyber security processes, in an attempt to keep pace with evolving cyber security risks. In spite of our efforts, we are unable to completely eliminate these risks and occasionally experience minor cyber security incidents. External phishing emails (occurring outside of our computer services) are a growing threat our customers are facing. These emails could lead to the disclosing of intellectual property or personally identifiable information, which could lead to financial harm or reputational damage. While our cyber security team works diligently with our employees around the world, as well as with our customers, to mitigate these threats by helping to identify and analyze phishing emails, we cannot guarantee that sensitive data will not be lost or stolen.

A breach in cyber security due to unauthorized access to our computer systems or misuse could include the misappropriation of assets or sensitive information, the corruption data or other operational disruption. Failures to our computer systems and networks could be caused by internal or external events, such as incursions by intruders or hackers, computer viruses, failures in hardware or software, or cyber terrorists. If we do experience a breach or failure of our systems, we could experience potentially significant operational delays resulting from the disruption of systems, loss due to theft or misappropriation of assets or data, or negative impacts from the loss of confidential data or intellectual property. We may face significant liability in the event personal information we maintain is lost or otherwise subject to misuse or other wrongful use, access or disclosure. Further, we could experience negative publicity resulting in reputation or brand damage with customers or partners.

Additionally, we are subject to privacy and data security laws across multiple jurisdictions, including those relating to the storage of health information, which are complex, overlapping and rapidly evolving. In the U.S., individual states regulate requirements and have authority over privacy and personal data protection. For example, the California Consumer Privacy Act of 2018, which took effect on January 1, 2020, imposes expansive new requirements and protections upon the processing of personal data, aimed at giving California consumers more visibility into and control over their personal information. There are also European privacy laws, such as the General Data Protection Regulation (GDPR) of the European Union, that impose restrictions on the transfer, access, use and disclosure of health and other personal information. We have implemented the requirements set forth by the GDPR, which took effect on May 25, 2018. As our activities continue to evolve and expand, we may be subject to additional laws that impose further restrictions on the transfer, access, use and disclosure of health and other personal information, which may impact our business either directly or indirectly. A failure to comply with applicable privacy or security laws or significant changes in these laws could subject us to costly regulatory action or lawsuits and could adversely impact our reputation, business and future business plans. For example, we may be subject to regulatory action or lawsuits in the event we fail to comply with applicable privacy laws.

We may encounter delays in receipt, or limits in the amount, of reimbursement approvals and public health funding, which may impact our ability to grow revenues in the healthcare market or negatively impact our profitability.

Changes in the availability or reimbursement of our diagnostic testing products by insurance providers and health maintenance organizations could also have a significant adverse impact on our results of operations. Third-party payors are often reluctant to reimburse healthcare providers for the use of medical tests that involve new technologies or provide novel diagnostic information. In addition, third-party payors are increasingly limiting reimbursement coverage for medical diagnostic products and, in many instances, are exerting pressure on suppliers to reduce their prices. Since each third-party payor often makes reimbursement decisions on an individual patient basis, obtaining such approvals is a time-consuming and costly process that requires us to provide scientific and clinical data supporting the clinical benefits of each of our products. As a result, there can be no assurance that reimbursement approvals will be obtained, and the process can delay the broad market introduction of new products. If third-party reimbursement is not consistent or financially adequate to cover the cost of our products, this could limit our ability to sell our products or cause us to reduce prices, which would adversely affect our results of operations.

Further, the ability of many of our customers to successfully market their products depends in part on the extent to which reimbursement for the costs of these products is available from governmental health administrations, private health insurers and other organizations. Governmental and other third-party payors are increasingly seeking to contain healthcare costs and to reduce the price of medical products and services. With evolving political realities in the United States, certain sections of the

Patient Protection and Affordable Care Act of 2010 (ACA) have not been fully implemented and the direction of healthcare policy is unpredictable. Uncertainty around the future of the ACA, and in particular the impact to reimbursement levels, may lead to uncertainty or delay in the purchasing decisions of our customers, which may in turn negatively impact our product sales. In accordance with the Protecting Access to Medicare Act of 2014 (PAMA), the Centers for Medicare & Medicaid Services calculate Medicare reimbursement rates for certain clinical diagnostic tests using weighted median private payor rates, which are based on rate information reported by applicable laboratories. This new rate methodology means the lower reimbursement rates previously experienced in the field of molecular pathology testing now extend to additional diagnostic testing codes on the Clinical Laboratory Fee Schedule (CLFS). If there are not adequate reimbursement levels, our business and results of operations could be adversely affected.

Reduction in research and development budgets and government funding may result in reduced sales.

Our customers include researchers at pharmaceutical and biotechnology companies, academic institutions, and government and private laboratories. Fluctuations in the research and development budgets of these organizations could have a significant adverse effect on demand for our products. Research and development budgets are affected by changes in available resources, the mergers of pharmaceutical and biotechnology companies, changes in spending priorities and institutional budgetary policies. Our results of operations could be adversely affected by any significant decrease in expenditures for life sciences research and development by pharmaceutical and biotechnology companies, academic institutions, and government and private laboratories. In addition, short-term changes in administrative, regulatory or purchasing-related procedures can create uncertainties or other impediments that can have an adverse impact on our results of operations.

In recent years, the pharmaceutical and biotechnology industries have undergone substantial restructuring and consolidation. Additional mergers or consolidation within the pharmaceutical and biotechnology industries could cause us to lose existing customers and potential future customers, which could have a material adverse impact on our results of operations.

Approximately 26% of our sales are generated by demand for use of our products at universities, government laboratories and private foundations, whose funding is dependent on grants from government agencies, such as the NIH (National Institutes of Health) in the United States. Although the level of research funding has been increasing in recent years, we cannot ensure that this trend will continue given federal and state budget constraints. Government funding of research and development is subject to the political process, which is inherently unpredictable. Future sales may be adversely affected if our customers delay purchases as a result of uncertainties regarding the approval of government or industrial budget proposals. Also, government proposals to reduce or eliminate budgetary deficits have sometimes included reduced allocations to the NIH and government agencies in other countries that fund life sciences research and development activities. A reduction in government funding for the NIH or government research agencies in other countries could have a serious adverse impact on our results of operations.

Competition could reduce our sales.

The markets for most of our products are very competitive. Competitors may have significant advantages in financial, operational, sales and marketing resources as well as experience in research and development. These competitors may have developed, or could develop in the future, new technologies that compete with our products or even render our products obsolete. Some competitors may obtain regulatory approval from the FDA or similar non-U.S. authorities and market-approved products. Our competitors' development of alternative products offering superior technology, greater cost-effectiveness or regulatory approval could have a material adverse effect on our sales and results of operations.

The growth of our business depends in part on the continued conversion of users from competitive products to our sample and assay technologies and other solutions. Lack of conversion could have a material adverse effect on our sales and results of operations.

It can be difficult for users of our products to switch from their current supplier of a particular product, primarily due to the time and expense required to properly integrate new products into their operations. As a result, if we are unable to be the first to develop and supply new products, our competitive position may suffer, resulting in a material adverse effect on our sales and results of operations.

For our commercial clinical assays, we often compete with solutions developed by our laboratory customers, and driving conversion from such laboratory-developed tests (LDTs) to commercial diagnostics assays can be challenging.

The time and expense needed to obtain regulatory approval and respond to changes in regulatory requirements could adversely affect our ability to commercially distribute our products and generate sales.

We and our customers operate in a highly regulated environment characterized by frequent changes in the governing regulatory framework. Genetic research activities and products commonly referred to as "genetically engineered" (such as certain food and therapeutic products) are subject to extensive governmental regulation in most developed countries, especially in the major markets for pharmaceutical and diagnostic products such as the European Union, the U.S., China and Japan. In recent years, several highly publicized scientific events (notably in genomic research, gene editing and cloning)

have prompted intense public debates on the ethical, philosophical and religious implications of an unlimited expansion in genetic research and the use of products emerging from this research. As a result of this debate, some key countries may increase or establish regulatory barriers, which could adversely affect demand for our products and prevent us from fulfilling our growth expectations. Furthermore, there can be no assurance that any future changes in applicable regulations will not require further expenditures or an alteration, suspension or liquidation of our operations in certain areas, or even in their entirety.

Changes in the existing regulations or adoption of new requirements or policies could adversely affect our ability to sell our approved or cleared products or to seek approvals for new products in other countries around the world. Sales of certain products now in development may be dependent upon us successfully conducting pre-clinical studies, clinical trials and other tasks required to gain regulatory approvals and meet other requirements from the FDA in the U.S. and regulatory agencies in other countries. If we are not able to meet the applicable requirements, we will not be able to commercialize our products and tests, which will have a material adverse effect on our business.

Several of our key products and programs are medical devices that are subject to extensive regulation by the FDA under the U.S. Food, Drug and Cosmetic Act. We plan to apply for FDA clearance or approval of additional products in the future. Regulatory agencies in other countries also have medical device and IVD approval requirements that are becoming more extensive. These regulations govern most commercial activities associated with medical devices, including indications for the use of these products as well as other aspects that include product development, testing, manufacturing, labeling, storage, record-keeping, advertising and promotion. Compliance with these regulations is expensive and time-consuming.

Our cleared or approved devices, including diagnostic tests and related equipment, are subject to numerous post-approval requirements. We are subject to inspection and marketing surveillance by the FDA to determine our compliance with regulatory requirements. If the FDA determines that we have failed to comply, it can institute a wide variety of enforcement actions, ranging from warning letters to more severe sanctions such as fines, injunctions and civil penalties, recalls or seizures of our products, operating restrictions, partial suspension or total shutdown of production, denial of our requests for 510(k) clearance or pre-market approval of product candidates, withdrawal of 510(k) clearance or pre-market approval already granted and civil or criminal prosecution. Any enforcement action by the FDA may affect our ability to commercially distribute these products in the U.S.

Some of our products are sold for research purposes in the U.S. We do not promote these products for clinical diagnostic use, and they are labeled "For Research Use Only" (RUO) or "for molecular biology applications." If the FDA were to disagree with our designation of a product as having RUO status, we could be forced to stop selling it until appropriate regulatory clearance or approval has been obtained.

We are subject to risks associated with patent litigation.

The biotechnology industry has been characterized by extensive litigation regarding patents and other intellectual property rights, particularly since industry competitors gravitate around common technology platforms. We are aware that patents have been applied for and/or issued to third parties claiming technologies for sample and assay technologies that are closely related to those we use. From time to time, we receive inquiries requesting confirmation that we do not infringe patents of third parties. We endeavor to follow developments in this field, and we do not believe that our technologies or products infringe any proprietary rights of third parties. However, there can be no assurance that third parties will not challenge our activities or, if so challenged, that we will prevail. In addition, the patent and proprietary rights of others could require that we alter our products or processes, pay licensing fees or cease certain activities, and there can be no assurance that we will be able to license any technologies that we may require on acceptable terms. In addition, litigation, including proceedings that may be declared by the U.S. Patent and Trademark Office or the International Trade Commission, may be necessary to respond to any assertions of infringement, enforce our patent rights and/or determine the scope and validity of our proprietary rights or those of third parties. Litigation, or threatened litigation, could involve substantial cost, and there can be no assurance that we would prevail in any proceedings.

We rely on collaborative commercial relationships to develop and/or market some of our products.

Our long-term business strategy involves entering into strategic alliances as well as marketing and distribution arrangements with academic, corporate and other partners relating to the development, commercialization, marketing and distribution of certain of our existing and potential products. We may be unable to continue to negotiate these collaborative arrangements on acceptable terms, and these relationships also may not be scientifically or commercially successful. In addition, we may be unable to maintain these relationships, and our collaborative partners may pursue or develop competing products or technologies, either on their own or in collaboration with others.

Our Precision Medicine business includes projects with pharmaceutical and biotechnology companies to co-develop companion diagnostics paired with drugs that those companies either market currently or are developing for future use. The success of these co-development programs, including regulatory approvals for the companion diagnostics, depends upon the continued

commitment of our partners to the development of their drugs, the outcome of clinical trials for the drugs and diagnostics, and regulatory approvals of the tests and drugs. In addition, the future level of sales for companion diagnostics depends to a high degree on the commercial success of the related medicines for which the tests have been designed. More companion diagnostics would be sold in combination with a widely prescribed drug than one with limited use.

The successful marketing of QIAGEN products, in some cases, depends on commercial relationships such as joint ventures or distributorships, particularly in emerging markets where we partner with local companies to augment our less-established commercial relationships and infrastructure. The continued commitment of our partners to these ventures, as well as the management of the commercial efforts, could influence QIAGEN's sales and profitability in these markets.

We have made investments in and are expanding our business into emerging markets, which exposes us to risks.

Our top seven emerging markets are Brazil, China, India, South Korea, Mexico, Russia and Turkey, which together accounted for approximately 15% of total sales in 2020. We expect to continue to focus on expanding our business in these or other fast-growing markets, including those in the Middle East and Asia. In addition to the currency and operating risks described above, our international operations are subject to a variety of risks arising from the economy, political outlook, language and cultural barriers in countries where we have operations or do business. In many of these emerging markets, we may face several risks that are more significant than in other countries in which we have a history of doing business. These risks include economies that may be dependent on only a few products and are therefore subject to significant fluctuations, weak legal systems that may affect our ability to enforce contractual rights, exchange controls, unstable governments, and privatization or other government actions affecting the flow of goods and currency. In conducting our business, we move products from one country to another and may provide services in one country from a subsidiary located in another country. Accordingly, we are vulnerable to abrupt changes in customs and tax regimes that could have significant negative impacts on our results of operations.

Some of our customers are requiring us to change our sales arrangements to lower their costs, and this may limit our pricing flexibility and harm our business.

Some of our customers have developed purchasing initiatives to reduce the number of vendors from which they purchase products in order to lower their supply costs. In some cases, these customers have established agreements with large distributors, which include discounts and direct involvement in the distributor's purchasing process. These activities may force us to supply large distributors with our products at discounts in order to continue providing products to some customers. For similar reasons, many larger customers, including the U.S. government, have requested, and may request in the future, special pricing arrangements, which can include blanket purchase agreements. These agreements may limit our pricing flexibility, which could harm our business and affect our results of operations. For a limited number of customers, and at the customers' request, we have conducted sales transactions through distribution and other value-added partners. If sales grow through these intermediaries, this could adversely impact our results of operations, in particular our gross profit.

Exchange rate fluctuations may adversely affect our business and operating results.

Given that we currently market our products throughout the world, a significant portion of our business is conducted in currencies other than the U.S. dollar, our reporting currency. As a result, fluctuations in value relative to the U.S. dollar of the currencies in which we conduct our business have caused and will continue to cause foreign currency transaction gains and losses. Foreign currency transaction gains and losses arising from normal business operations are charged against earnings in the period when incurred. Due to the number of currencies involved, the variability of currency exposures and the potential volatility of currency exchange rates, we cannot predict the effects of future exchange rate fluctuations. While we may engage in foreign exchange hedging transactions to manage our foreign currency exposure, there can be no assurance that our hedging strategy will adequately protect our operating results from the effects of future exchange rate fluctuations.

Our success depends on the continued employment of qualified personnel, any of whom we may lose at any time.

Although we have not experienced any difficulties attracting or retaining management and scientific staff, our ability to recruit and retain qualified, skilled employees will continue to be critical to our success. Given the intense competition for experienced scientists and managers among pharmaceutical and biotechnology companies, as well as academic and other research institutions, there can be no assurance that we will be able to attract and retain employees critical to our success on acceptable terms. Initiatives to expand QIAGEN will also require additional employees, including management with expertise in areas such as research and development, manufacturing, digitization, sales and marketing, and the development of existing managers to lead a growing organization. The failure to recruit and retain qualified employees, or develop existing employees, could have a material adverse impact on our results of operations.

Our ability to accurately forecast our results during each quarter may be negatively impacted by the fact that a substantial percentage of our sales may be recorded in the final weeks or days of the quarter.

In the markets we serve, a high percentage of purchase orders are typically received in the final few weeks or days of each quarter. Although this varies from quarter to quarter, many customers make a large portion of their purchase decisions late in

each quarter, in particular because they receive new information during this period on their budgets and requirements. Additionally, volatility in the timing of revenue from companion diagnostic partnerships can be difficult to predict. As a result, even late in each quarter, we cannot predict with certainty whether our sales forecasts for the quarter will be achieved.

Historically, we have been able to rely on the overall pattern of customer purchase orders during prior periods to project with reasonable accuracy our anticipated sales for the current or coming quarters. However, if customer purchasing trends during a quarter vary from historical patterns, as may occur with changes in market and economic conditions, our quarterly financial results could deviate significantly from our projections. As a result, our sales forecasts for any given quarter may prove not to be accurate. We also may not have sufficient, timely information to confirm or revise our sales projections for a specific quarter. If we fail to achieve our forecasted sales for a particular quarter, the value of our Common Shares could be significantly affected.

We have a significant amount of debt that may adversely affect our financial condition and flexibility.

We have a significant amount of debt and debt service obligations and restrictive covenants imposed by our lenders. A high level of indebtedness increases the risk that we may default on our debt obligations, and restrictive covenants may prevent us from borrowing additional funds. There is no assurance that we will be able to generate sufficient cash flow to pay the interest on our debt and comply with our debt covenants or that future working capital, borrowings or equity financing will be available to repay or refinance our debt. If we are unable to generate sufficient cash flow to pay the interest on our debt and comply with our debt covenants, we may have to delay or curtail our research and development programs. The level of our indebtedness could, among other things:

- make it difficult for us to make required payments on our debt;
- make it difficult for us to obtain financing in the future necessary for working capital, capital expenditures, debt service requirements or other purposes;
- limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we compete; and
- make us more vulnerable in the event of a downturn in our business.

The Financial Conduct Authority of the United Kingdom plans to phase out the London Interbank Offered Rate (LIBOR) by the end of 2021. Presently, we do hold debt and derivative instruments that use LIBOR. While certain agreements do contain language for the determination of interest rates in the event the LIBOR rate is not available, changes to these agreements may be required, and we could be negatively impacted by any newly determined alternative benchmark.

Our business may require substantial additional capital, which we may not be able to obtain on terms acceptable to us, if at all.

Our future capital requirements and level of expenses will depend on numerous factors, including the costs associated with:

- marketing, sales and customer support efforts;
- research and development activities;
- expansion of our facilities;
- consummation of possible future acquisitions of technologies, products or businesses;
- demand for our products and services;
- repayment or refinancing of debt; and
- payments in connection with our hedging activities and/or taxes.

We currently anticipate that our short-term capital requirements will be satisfied by cash flow from our operations and/or cash on hand. As of December 31, 2020, we had outstanding long-term debt of \$1.9 billion, of which \$42.5 million was current. We may need to refinance these liabilities.

If at some point in time our existing resources should be insufficient to fund our activities, we may need to raise funds through public or private debt or equity financings. The funds for the refinancing of existing liabilities or for the ongoing funding of our business may not be available or, if available, not on terms acceptable to us. If adequate funds are not available, we may be required to reduce or delay expenditures for research and development, production, marketing, capital expenditures and/or acquisitions, which could have a material adverse effect on our business and results of operations. To the extent that additional capital is raised through the sale of equity or convertible securities, the issuance of any securities could result in dilution to our shareholders.

The accounting for the cash convertible notes we have issued will result in recognition of interest expense significantly greater than the stated interest rate of the notes and may result in volatility to our Consolidated Statements of Income (Loss).

We will settle any conversions of the Cash Convertible Notes described under the heading "Other Factors Affecting Liquidity and Capital Resources" elsewhere in this report, entirely in cash. Accordingly, the conversion option that is part of the Cash Convertible Notes will be accounted for as a derivative pursuant to accounting standards relating to derivative instruments and hedging activities. Refer to Note 14 "Derivatives and Hedging" and Note 16 "Debt", of the Notes to Consolidated Financial Statements. In general, this resulted in an initial valuation of the conversion option separate from the debt component of the Cash Convertible Notes, resulting in an original issue discount. The original issue discount will be accreted to interest expense over the term of the Cash Convertible Notes, which will result in an effective interest rate reported in our financial statements significantly in excess of the stated coupon rates of the Cash Convertible Notes. This accounting treatment will reduce our earnings. For each financial statement period after the issuance of the Cash Convertible Notes, a gain (or loss) will be reported in our financial statements to the extent the valuation of the conversion option changes from the previous period. The Call Options issued in connection with the Cash Convertible Notes will also be accounted for as derivative instruments, substantially offsetting the gain (or loss) associated with changes to the valuation of the conversion option. This may result in increased volatility to our results of operations.

The cash convertible note hedge and warrant transactions we entered into in connection with the issuance of our Cash Convertible Notes may not provide the benefits we anticipate, and may have a dilutive effect on our common stock.

Concurrently with the issuance of the Cash Convertible Notes, we entered into Call Options and issued Warrants. We entered into the Call Options with the expectation that they would offset potential cash payments by us in excess of the principal amount of the Cash Convertible Notes upon conversion of the Cash Convertible Notes. In the event that the hedge counterparties fail to deliver potential cash payments to us, as required under the Call Options, we would not receive the benefit of such transaction. Separately, we also issued Warrants. The Warrants could separately have a dilutive effect to the extent that the market price per share of our common stock, as measured under the terms of the Warrants, exceeds the strike price of the Warrants.

An impairment of goodwill and intangible assets could reduce our earnings.

At December 31, 2020, our consolidated balance sheet reflected \$2.4 billion of goodwill and \$726.2 million of intangible assets. Goodwill is recorded when the purchase price of a business exceeds the fair value of the tangible and separately measurable intangible net assets. U.S. generally accepted accounting principles (U.S. GAAP) require us to test goodwill for impairment on an annual basis or when events or circumstances occur indicating that goodwill might be impaired. Long-lived assets, such as intangible assets with finite useful lives, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. The impairment review often cannot be done at the level of the individual asset and it must instead be applied to a group of assets. For the purpose of our annual goodwill impairment testing based on the current circumstances of how we manage our business, this group of assets is the Company as a whole. If we determine that any of our goodwill or intangible assets were impaired, we will be required to take an immediate charge to earnings and our results of operations could be adversely affected.

Our strategic equity investments may result in losses.

We have made, and may continue to make, strategic investments in businesses as opportunities arise. We periodically review the carrying value of these investments for impairment, considering factors that include the most recent stock transactions, book values from the most recent financial statements, and forecasts and expectations of the investee. The results of these valuations may fluctuate due to market conditions and other conditions over which we have no control.

Estimating the fair value of non-marketable equity investments in life science companies is inherently subjective. If actual events differ from our assumptions and unfavorable fluctuations in the valuations of the investments are indicated, we could be required to write down the investment. This could result in future charges on our earnings that could materially adversely affect our results of operations. It is uncertain whether or not we will realize any long-term benefits from these strategic investments.

Doing business internationally creates certain risks.

Our business involves operations in several countries outside of the U.S. Our consumable manufacturing facilities are located in Germany, China and the U.S. We source raw materials and subcomponents to manufacture our products from different countries. We have established sales subsidiaries in many countries. In addition, our products are sold through independent distributors serving more than 40 other countries. Conducting and launching operations on an international scale requires close coordination of activities across multiple jurisdictions and time zones and consumes significant management resources. We have invested heavily in computerized information systems in order to manage more efficiently the widely dispersed components of our operations. If we fail to coordinate and manage these activities effectively, our business and results of operations will be adversely affected.

Our operations are subject to other risks inherent in international business activities, such as the general economic and public health conditions in the countries in which we operate, trade restrictions and changes in tariffs, longer accounts receivable payment cycles in certain countries, overlap of different tax structures, unexpected changes in regulatory requirements, and compliance with a variety of foreign laws and regulations. Other risks associated with international operations include import and export licensing requirements, exchange controls and changes in freight rates, as may occur as a result of rising energy costs. As a result of these conditions, an inability to successfully manage our international operations could have a material adverse impact on our business and results of operations.

Unethical behavior and non-compliance with laws by our sales representatives, other employees, consultants, commercial partners or distributors or employees could seriously harm our business.

Our business in countries with a history of corruption and transactions with foreign governments increases the risks associated with our international activities. Based on our international operations, we are subject to the U.S. Foreign Corrupt Practices Act (FCPA), the U.K. Bribery Act and other laws that prohibit improper payments or offers of payments to foreign governments and their officials and political parties by business entities for the purpose of obtaining or retaining business. We have operations, agreements with third parties and sales in countries known to experience corruption. Further international expansion may involve increased exposure to such practices. Our activities in these countries and others create risks of unauthorized payments or offers of payments, non-compliance with laws, or other unethical behavior by any of our employees, consultants, sales agents or distributors, that could be in violation of various laws, including the FCPA, even though these parties are not always subject to our control. Our policy is to implement safeguards to discourage these or other unethical practices by our employees and distributors including online and in-person employee trainings, periodic internal audits and standard reviews of our distributors. However, our existing safeguards and any future improvements may not prove to be effective, and our employees, consultants, sales agents or distributors may engage in conduct for which we might be held responsible. Violations of the FCPA and other laws may result in criminal or civil sanctions, which could be severe, and we may be subject to other liabilities, which could negatively affect our business, results of operations and financial condition.

We depend on patents and proprietary rights that may fail to protect our business.

Our success depends to a large extent on our ability to develop proprietary products and technologies and to establish and protect our patent and trademark rights in these products and technologies. As of December 31, 2020, we owned 368 issued patents in the United States, 284 issued patents in Germany and 1,813 issued patents in other major industrialized countries. In addition, at December 31, 2020, we had 546 pending patent applications, and we intend to file applications for additional patents as our products and technologies are developed. The patent positions of technology-based companies involve complex legal and factual questions and may be uncertain, and the laws governing the scope of patent coverage and the periods of enforceability of patent protection are subject to change. In addition, patent applications in the United States are maintained in secrecy until patents issue, and publication of discoveries in the scientific or patent literature tends to lag behind actual discoveries by several months. Therefore, no assurance can be given that patents will issue from any patent applications that we own or license, or if patents do issue, that the claims allowed will be sufficiently broad to protect our technology. In addition, no assurance can be given that any issued patents that we own or license will not be challenged, invalidated or circumvented, or that the rights granted thereunder will provide us competitive advantages. Further, as issued patents expire, we may lose some competitive advantage as others develop competing products and as a result, we may lose revenue.

Some of our products incorporate patents and technologies that are licensed from third parties and for certain products, these in-licensed patents together with other patents provide us with a competitive advantage. These licenses impose various commercialization, sublicensing and other obligations on us. Our failure to comply with these requirements could result in the conversion of the applicable license from being exclusive to non-exclusive or, in some cases, termination of the license, and as a result, we may lose some competitive advantage and experience a loss of revenue.

We also rely on trade secrets and proprietary know-how, which we seek to protect through confidentiality agreements with our employees and consultants. There can be no assurance that any confidentiality agreements that we have with our employees, consultants, outside scientific collaborators and sponsored researchers and other advisors will provide meaningful protection for our trade secrets or adequate remedies in the event of unauthorized use or disclosure of such information. There also can be no assurance that our trade secrets will not otherwise become known or be independently developed by competitors.

We currently engage in, and may continue to engage in, collaborations with academic researchers and institutions. There can be no assurance that under the terms of such collaborations, third parties will not acquire rights in certain inventions developed during the course of these collaborations.

Our business exposes us to potential product liability.

The marketing and sale of our products and services for certain applications entail a potential risk of product liability. Although we are not currently subject to any material product liability claims, product liability claims may be brought against us in the future. Further, there can be no assurance that our products will not be included in unethical, illegal or inappropriate research or

applications, which may in turn put us at risk of litigation. We carry product liability insurance coverage, which is limited in scope and amount. There can be no assurance that we will be able to maintain this insurance at a reasonable cost and on reasonable terms, or that this insurance will be adequate to protect us against any or all potential claims or losses.

We are subject to various laws and regulations generally applicable to businesses in the different jurisdictions in which we operate, including laws and regulations applicable to the handling and disposal of hazardous substances. The risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, we could be held liable for any damages that result, and any such liability could have a material adverse impact on us.

Our operating results may vary significantly from period to period and this may affect the market price of our Common Shares.

Our operating results may vary significantly from quarter to quarter, and also year to year, since they are dependent upon a broad range of factors that include demand for our products, the level and timing of customer research budgets and commercialization efforts, the timing of government funding budgets of our customers, the timing of our research and development activities and related regulatory approvals, the impact of sales and marketing expenses, restructuring activities, introduction of new products by us or our competitors, competitive market conditions, exchange rate fluctuations and general economic conditions. Our expense levels are based in part on our expectations as to future sales trends. As a result, sales and earnings may vary significantly from quarter to quarter or from year to year, and actual sales and earnings results in any one period will not necessarily be indicative of results to be anticipated in subsequent periods. Our results may also fail to meet or exceed the expectations of securities analysts or investors, which could cause a decline in the market price of our Common Shares.

Our holding company structure makes us dependent on the operations of our subsidiaries.

QIAGEN N.V. is incorporated under Dutch law as a public limited liability company (*naamloze vennootschap*), and is organized as a holding company. Currently, the material assets are the outstanding shares of the QIAGEN subsidiaries, intercompany receivables and other financial assets such as cash, short-term investments and derivative instruments. As a result, QIAGEN N.V. is dependent upon payments, dividends and distributions from the subsidiaries for funds to pay operating and other expenses as well as to pay future cash dividends or distributions, if any, to holders of our Common Shares. Dividends or distributions by subsidiaries in a currency other than the U.S. dollar may result in a loss upon a subsequent conversion into U.S. dollars.

Our Common Shares may have a volatile public trading price.

The market price of our Common Shares since our initial public offering in September 1996 has increased significantly and been highly volatile. Since January 10, 2018, our shares have been listed on the New York Stock Exchange (NYSE). Before that, our shares were listed on the NASDAQ through January 9, 2018. In the last two years, the price of our Common Shares has ranged from a high of \$55.27 to a low of \$25.04. On the Frankfurt Stock Exchange our Common Shares have ranged from a high of €46.95 to a low of €22.54 during the last two years. In addition to overall stock market fluctuations, factors that may have a significant impact on the price of our Common Shares include:

- announcements of technological innovations or the introduction of new products by us or our competitors;
- developments in our relationships with collaborative partners;
- quarterly variations in our operating results or those of our peer companies;
- changes in government regulations, tax laws or patent laws;
- developments in patent or other intellectual property rights;
- developments in government spending budgets for life sciences-related research;
- general market conditions relating to the diagnostics, applied testing, pharmaceutical and biotechnology industries; and
- impact from foreign exchange rates.

The stock market has from time to time experienced extreme price and trading volume fluctuations that have particularly affected the market for technology-based companies. These fluctuations have not necessarily been related to the operating performance of these companies. These broad market fluctuations may adversely affect the market price of our Common Shares.

Holders of our Common Shares should not expect to receive dividend income.

QIAGEN has not paid an annual dividend since its inception, and does not intend to implement one at this time. At the same time, in January 2017 we completed a synthetic share repurchase that combined a direct capital repayment with a reverse stock split. Although we do not anticipate paying any cash dividends on a regular basis, the distribution of any cash dividends through

another synthetic share repurchase in a currency other than the U.S. dollar will be subject to the risk of foreign currency transaction losses. Investors should not invest in our Common Shares if they are seeking dividend income; the only return that may be realized through investing in our Common Shares would be through an appreciation in the share price.

Holders of our Common Shares may not benefit from future stock repurchase programs.

QIAGEN has conducted share repurchase programs in the past through open-market transactions. The purpose of our share repurchases has been to hold the shares in treasury in order to satisfy obligations from exchangeable debt instruments, warrants and/or employee share-based remuneration plans and thus to reduce dilution to existing holders of our Common Shares. In 2019, we began net share withholding on the vesting of stock-based awards and as a result, fewer shares are issued than the number of awards outstanding. We may decide not to continue such programs in the future, our covenants with lenders may limit our ability to use available cash to do so, or the market price of our Common Shares may make such repurchases less desirable. In any of these cases, holders of our Common Shares may suffer dilution from conversion of our indebtedness or issuance of shares pursuant to employee remuneration plans that would otherwise be at least partially offset by repurchased shares.

Future sales and issuances of our Common Shares could adversely affect our stock price.

Any future sale or issuance of a substantial number of our Common Shares in the public market, or any perception that a sale may occur, could adversely affect the market price of our Common Shares. Under Dutch law, a company can issue shares up to its authorized share capital provided for in its Articles of Association. Pursuant to our Articles of Association, our authorized share capital amounts to EUR 9.0 million, which is divided into 410.0 million common shares, 40.0 million financing preference shares and 450.0 million preference shares, with all shares having a EUR 0.01 par value. As of December 31, 2020, a total of approximately 228.0 million Common Shares were outstanding along with approximately 5.6 million additional shares reserved for issuance upon exercise or release of outstanding stock options and awards, of which 0.4 million were vested. A total of approximately 14.4 million Common Shares are reserved and available for issuances under our stock plans as of December 31, 2020, including the shares subject to outstanding stock options and awards. The majority of our outstanding Common Shares may be sold without restriction, except shares held by our affiliates, which are subject to certain limitations on resale. Additionally, convertible debt issued in 2020 and Warrants issued in connection with the Cash Convertible Notes cover an aggregate of 26.8 million underlying shares of common stock or up to a maximum of 42.5 million shares, subject to customary adjustments under certain circumstances.

Shareholders who are United States residents could be subject to unfavorable tax treatment.

We may be classified as a “passive foreign investment company,” or a PFIC, for U.S. federal income tax purposes if certain tests are met. Our treatment as a PFIC could result in a reduction in the after-tax return to holders of Common Shares and would likely cause a reduction in the value of these shares. If we were determined to be a PFIC for U.S. federal income tax purposes, highly complex rules would apply to our U.S. shareholders. We would be considered a PFIC with respect to a U.S. shareholder if for any taxable year in which the U.S. shareholder held the Common Shares, either (i) 75% or more of our gross income for the taxable year is passive income; or (ii) the average value of our assets (during the taxable year) which produce or are held for the production of passive income is at least 50% of the average value of all assets for such year. Based on our income, assets and activities, we do not believe that we were a PFIC for U.S. federal income tax purposes for our taxable year ended December 31, 2020, and do not expect to be a PFIC for the current taxable year or any future taxable year. No assurances can be made, however, that the Internal Revenue Service will not challenge this position or that we will not subsequently become a PFIC.

Provisions of our Articles of Association and Dutch law and an option we have granted may make it difficult to replace or remove management and may inhibit or delay a takeover.

Our Articles of Association (Articles) provide that our shareholders may only suspend or dismiss our Managing Directors and Supervisory Directors against their wishes with a vote of two-thirds of the votes cast if such votes represent more than 50% of our issued share capital. If the proposal was made by the joint meeting of the Supervisory Board and the Managing Board, a simple majority is sufficient. The Articles also provide that if the members of our Supervisory Board and our Managing Board have been nominated by the joint meeting of the Supervisory Board and Managing Board, shareholders may only overrule this nomination with a vote of two-thirds of the votes cast if such votes represent more than 50% of our issued share capital.

Certain other provisions of our Articles allow us, under certain circumstances, to prevent a third party from obtaining a majority of the voting control of our Common Shares through the issuance of Preference Shares. Pursuant to our Articles and the resolution adopted by our General Meeting of Shareholders, our Supervisory Board is entitled to issue Preference Shares in case of an intended takeover of our company by (i) any person who alone or with one or more other persons, directly or indirectly, have acquired or given notice of an intent to acquire (beneficial) ownership of an equity stake which in aggregate equals 20% or more of our share capital then outstanding or (ii) an “adverse person” as determined by the Supervisory Board. If the Supervisory Board opposes an intended takeover and authorizes the issuance of Preference Shares, the bidder may withdraw its

bid or enter into negotiations with the Managing Board and/or Supervisory Board and agree on a higher bid price for our Shares.

In 2004, we granted an option to the Stichting Preferente Aandelen QIAGEN, or the Foundation (*Stichting*), subject to the conditions described in the paragraph above, which allows the Foundation to acquire Preference Shares from us. The option enables the Foundation to acquire such number of Preference Shares as equals the number of our outstanding Common Shares at the time of the relevant exercise of the option, less one Preference Share. When exercising the option and exercising its voting rights on these Preference Shares, the Foundation must act in our interest and the interests of our stakeholders. The purpose of the Foundation option is to prevent or delay a change of control that would not be in the best interests of our stakeholders. An important restriction on the Foundation's ability to prevent or delay a change of control is that a public offer must be announced by a third party before it can issue (preference or other) protective shares that would enable the Foundation to exercise rights to 30% or more of the voting rights without an obligation to make a mandatory offer for all shares held by the remaining shareholders. In addition, the holding period for these shares by the Foundation is restricted to two years, and this protective stake must fall below the 30% voting rights threshold before the two-year period ends.

Note Regarding Forward-Looking Statements and Risk Factors

Our future operating results may be affected by various risk factors, many of which are beyond our control. Certain statements included in this Annual Report and the documents incorporated herein by reference may be forward-looking statements within the meaning of Section 27A of the U.S. Securities Act of 1933, as amended, and Section 21E of the U.S. Securities Exchange Act of 1934, as amended, including statements regarding potential future net sales, gross profit, net income and liquidity. 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. Reference is made in particular to the description of our plans and objectives for future operations, assumptions underlying such plans and objectives, and other forward-looking statements. 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. Factors which could cause such results to differ materially from those described in the forward-looking statements include those set forth in the risk factors below. As a result, our future success involves a high degree of risk. When considering forward-looking statements, you should keep in mind that the risk factors could cause our actual results to differ significantly from those contained in any forward-looking statement.

Item 4. Information on the Company

Description of our business

Company overview

QIAGEN is a global leader in Sample to Insight solutions that transform biological samples into valuable molecular insights. Our mission is to enable customers across the continuum of molecular testing to unlock valuable insights faster, better and more efficiently - from the raw biological sample to the final interpreted result. Proven QIAGEN solutions and content are providing answers in hospitals and laboratories worldwide, helping make sense of the increasing volumes and complexity of biological information, in keeping with our vision of making improvements in life possible.

We began operations in 1986 as a pioneer in the emerging biotechnology sector, introducing a novel method that standardized and accelerated extraction and purification of nucleic acids from biological samples. As molecular biology and genomic knowledge have grown to influence many areas of life, we have expanded to serve the full spectrum of market needs. We believe our sample technologies are unmatched in quality for isolating and preparing DNA (deoxyribonucleic acid), RNA (ribonucleic acid) and proteins from blood or other liquids, tissue, plants or other materials. Our assay technologies amplify, enrich and make these biomolecules accessible for analysis, such as identifying the genetic information of a pathogen or a gene mutation in a tumor. Our industry-leading bioinformatics solutions allow users to analyze and interpret data with bioinformatics software and knowledge bases to provide relevant, actionable insights. Our automation systems can be used to tie these technologies together in seamless and cost-effective molecular testing workflows.

We have grown by developing new instruments, consumables and digital solutions to meet diverse and growing needs in the market, partnering with researchers and pharma companies, and acquiring companies or technologies to complement our portfolio. We believe the addressable global market for our portfolio of molecular testing products in life science research and molecular diagnostics totals more than \$11 billion. We continue to accelerate the growth of our portfolio of Sample to Insight solutions, delivering efficiency and effectiveness, increasing the value of QIAGEN as an employer of choice and enhancing the customer experience. Our growth strategy is anchored in our Five Pillars of Growth: sample technologies, the digital PCR

platform QIAcuity, the clinical PCR automation solutions QIAstat-Dx and NeuMoDx and the QuantiFERON technology platform used to detect diseases such as latent tuberculosis.

We have funded our growth through internally generated funds, debt offerings, and private and public sales of equity securities. Our global shares are listed on the New York Stock Exchange under the ticker symbol QGEN and on the Frankfurt Prime Standard as QIA.

The company is registered under its commercial and legal name QIAGEN N.V. with the trade register (*kamer van koophandel*) of the Dutch region Limburg Noord under file number 12036979. QIAGEN N.V. is a public limited liability company (*naamloze vennootschap*) under Dutch law as a holding company. Our principal executive office is located at Hulsterweg 82, 5912 PL Venlo, The Netherlands, and our telephone number is +31-77-355-6600.

As a holding company, QIAGEN conducts business through subsidiaries located throughout the world. Further information about QIAGEN can be found at www.qiagen.com. By referring to our website, we do not incorporate the website or any portion of the website by reference into this Annual Report.

Our products

Our leadership in molecular testing solutions leverages our product portfolio across a wide range of applications. We provide more than 500 core consumable products (sample and assay kits), instruments and automation systems, and bioinformatics solutions for analysis and interpretation. These products comprise two main categories: consumables and related revenues accounted for between 86% and 89% of total net sales during the last three years and includes sample and assay kits, bioinformatics solutions, royalties, co-development milestone payments and services while instruments includes related services and contracts and accounted for between 11% and 14% of total net sales during the same time period.

In 2020, we worked closely with public authorities and customers to launch products based on molecular technologies to test for the SARS-CoV-2 pathogen and the COVID-19 disease it triggers. We have built a comprehensive portfolio of solutions to cover the phases of the pandemic including: a collection of RNA extraction kits and automation instrumentation from our sample technologies portfolio, PCR testing workflows including QIAstat-Dx, NeuMoDx, and other PCR solutions, OEM components used by other diagnostic suppliers, antigen and antibody tests, and genomic solutions. We are fully mobilized to serve our customers in the pandemic response, providing existing solutions and developing a series of differentiated products. Dedicated COVID-19 solutions brought to market in 2020 include:

- QIAstat-Dx Respiratory SARS-CoV-2 Panel - a multiplex PCR test with EUA-authorization for the detection of SARS-CoV-2 plus more than 20 other respiratory pathogens;
- NeuMoDx - single-plex (also approved for saliva sample type) and multiplex;
- QIAprep& rapid PCR test - a solution that streamlines RNA extraction and PCR analysis into one process, delivering a result in under one hour and requiring less disposable laboratory plastic-ware than standard PCR tests, helping to avoid resource bottlenecks;
- QIAreach Antibody test - allows clinicians to detect immune status of individuals and has applications in determining vaccine efficacy;
- QuantiFERON SARS-CoV-2 T cell assay - enables researchers to explore longer-term immune responses to the virus and vaccines; and
- a suite of next generation sequencing (NGS) and bioinformatics tools - used for epidemiological studies.

QIAGEN Product Groups

Sample Technologies

Sample technologies is the first of our Five Pillars of Growth and includes products involved in the first step of any molecular lab process. Our broad portfolio of sample technologies includes consumables and instruments used in sample collection, stabilization, storage, purification and quality control. Some of our consumables are designed to run on our instruments, while others are universal kits designed for use with any molecular testing platform. These products are used in research and applied testing (forensics, human identification and food safety) laboratories as well as clinical testing.

Sample technologies	Selected QIAGEN brands
Primary sample technology consumables <ul style="list-style-type: none"> Nucleic stabilization and purification kits designed for primary sample materials (DNA, RNA), manual and automated processing for genotyping, gene expression, viral and bacterial analysis Mainly based on silica membrane and magnetic bead technologies 	<ul style="list-style-type: none"> • QIAamp • PAXgene • AllPrep • DNeasy • AdnaTest • QIAprep&amp; • RNeasy • MagAttract
Secondary sample technology consumables <ul style="list-style-type: none"> Kits and components for purification of nucleic acids from secondary sample materials (e.g. gel, plasmid DNA) 	<ul style="list-style-type: none"> • QIAprep • QIAGEN Plasmid • HiSpeed • QIAquick • QIAfilter • EndoFree • DyeEx • R.E.A.L.
Sample technology instruments <ul style="list-style-type: none"> Instruments for nucleic acid purification, quality control and accessories 	<ul style="list-style-type: none"> • QIASymphony • EZ1 • TissueLyser • QIAcube Connect • QIAxpert • QIAcube HT • QIAxcel

Diagnostic Solutions

Diagnostic solutions include our molecular testing platforms and consumables covering three of our five pillars of growth, which are QuantiFERON, QIAstat-Dx and NeuMoDx, as well as Precision Medicine which involves companion diagnostic co-development revenues from projects with pharmaceutical companies, regulated assays and solutions for laboratory developed tests. Additional areas include Oncology and Sexual & Reproductive Health for detection of various diseases and for use in prenatal testing for detection of infectious diseases and for other laboratory processes.

Diagnostic solutions	Selected QIAGEN brands
Immune response consumables <ul style="list-style-type: none"> Interferon-Gamma Release Assay (IGRA) for TB testing Assays for post-transplant testing and viral load monitoring 	<ul style="list-style-type: none"> • QuantiFERON • QIAreach
Oncology and Sexual & Reproductive health consumables <ul style="list-style-type: none"> Assays for analysis of genomic variants such as mutations, insertions, deletions and fusions Assays for prenatal testing and detection of sexually transmitted diseases and HPV 	<ul style="list-style-type: none"> • Therascreen • AmniSure / PartoSure • Ipsogen • digene HC2
Sample to Insight instruments <ul style="list-style-type: none"> One-step molecular analysis of hard-to-diagnose syndromes Fully integrated PCR testing 	<ul style="list-style-type: none"> • QIAstat-Dx • NeuMoDx

PCR / Nucleic Acid Amplification

PCR / Nucleic Acid Amplification involves our research and applied PCR solutions and components. The product group includes another of our Five Pillars of Growth: QIAcuity. We offer optimized solutions for end-point PCR, quantitative PCR and digital PCR. Our kits, assays, instruments and accessories amplify and detect targets and streamline workflow for virtually any application.

PCR/Nucleic acid amplification	Selected QIAGEN brands
Research PCR consumables	<ul style="list-style-type: none"> • QuantiTect • OneStep RT-PCR • Type-it • OmniScript • QuantiFast • QIAGEN Multiplex • miRCURY • miScript
Different generations of PCR, quantitative PCR, reverse transcription and combinations (RT-PCR) kits for analysis of gene expression, genotyping and gene regulation, running on QIAGEN or third-party instruments and technologies	<ul style="list-style-type: none"> • QuantiNova • HotStarTaq • TopTaq
Human ID / Forensics assay consumables	<ul style="list-style-type: none"> • Investigator (human ID / forensics) • <i>mericon</i> (food safety)
STR assays for Human ID, additional assays for food contamination	<ul style="list-style-type: none"> • QIAcuity • Rotor-Gene Q • QIAquant • QIAgility • QIAamplifier 96
PCR instruments	<ul style="list-style-type: none"> • Provided on an individualized contract basis
Digital PCR solutions.	
OEM consumables	
Custom-developed and configured enzymes and PCR solutions that are sold to OEM customers	

Genomics / NGS

Genomics / NGS includes our universal NGS solutions as well as the full QIAGEN Digital Insights portfolio.

Genomics / NGS	Selected QIAGEN brands
Universal NGS consumables	<ul style="list-style-type: none"> • QIAseq • REPLI-g • Epitect
Predefined and custom NGS gene panels (DNA, RNA), library prep kits and components, whole genome amplification, etc.	
QIAGEN Digital Insights solutions	<ul style="list-style-type: none"> • QIAGEN Clinical Insight • N-of-One • Ingenuity Variant Analysis • CLC Genomics Workbench • OmicSoft • Ingenuity Pathway Analysis • QIAGEN Knowledge Base • HGMD
Bioinformatics solutions analyze and interpret data to deliver actionable insights from NGS. This includes freestanding software or cloud-based solutions and is also integrated into many QIAGEN consumables and instruments	
Custom laboratory and genomic services	<ul style="list-style-type: none"> • Provided on an individualized contract basis
Custom services such as DNA sequencing, whole genome amplification, and non-cGMP DNA production	

Other

Revenues from various sources including protein biology products, royalties, intellectual property and freight charges.

Principal Markets

We sell our products to more than 500,000 customers in two broad customer groups: Molecular Diagnostics (clinical testing) and Life Sciences (academia, pharmaceutical R&D and applied testing). We estimate the total addressable market has a volume of about \$11 billion per year. The five pillars of growth – sample technologies, immune response, digital PCR, integrated PCR, syndromic testing – account for \$6 billion of this total.

Molecular Diagnostics

The molecular diagnostics market includes healthcare providers engaged in many aspects of patient care that require accurate diagnoses and insights to guide treatment decisions in oncology, infectious diseases and immune monitoring.

We offer one of the broadest portfolios of molecular technologies for healthcare. The success of molecular testing in healthcare depends on the ability to accurately analyze purified nucleic acid samples from sources such as blood, tissue, body fluids and

stool. Automated systems process tests reliably and efficiently, often handling hundreds of samples simultaneously. Our range of assays for diseases and biomarkers speed up and simplify laboratory workflow and standardize many lab procedures.

Molecular testing is the most dynamic segment of the global *in vitro* diagnostics market, growing at an estimated annual rate in the mid-single-digits at constant exchange rates even before COVID-19 struck. The pandemic has demonstrated the value of molecular testing in healthcare and we expect the market to provide significant growth opportunities.

We have built a position as a preferred partner to co-develop companion diagnostics paired with targeted drugs. We have more than 25 master collaboration agreements with pharmaceutical industry customers, some with multiple co-development projects. They have created a rich pipeline of molecular tests that are transforming the treatment of cancer and other diseases. Companion diagnostics can move through clinical trials and regulatory approvals, along with the paired drugs, to commercialization and marketing to healthcare providers.

Molecular Diagnostics customers accounted for \$904 million, \$737 million, and \$732 million of our sales in 2020, 2019 and 2018, respectively.

Life Sciences

The Life Sciences market includes governments and biotechnology companies – and researchers who use molecular testing and technologies and are generally served by public funding in areas such as medicine and clinical development, forensics and exploring the secrets of life.

We partner with customers across diverse disciplines in academia and industry, providing sample technologies, assay technologies, bioinformatics and services to universities and institutes, pharmaceutical and biotech companies, government and law enforcement agencies.

We provide Sample to Insight solutions to academic and research institutions around the world. We focus on enabling researchers to use reliable, fast, highly reproducible and high-quality technologies, sometimes replacing time-consuming traditional or in-house methods. We often partner with leading institutions on research projects and develop customized solutions such as NGS panels for the digital sequencing of multiple gene targets.

In the course of the COVID-19 pandemic, we served increased demand from viral and vaccine researchers for RNA extraction, general PCR reagents and enzymes, and universal NGS solutions.

We are a global leader in solutions for governments and industry, particularly in forensic testing and human identification. The value of genetic "fingerprinting" has been proven in criminal investigations and examinations of paternity or ancestry, as well as in food safety and veterinary diagnostics. We provide sample collection and analytical solutions for law enforcement and human identification labs, as well as advanced technologies for studies of microbiomes and their effect on health and the environment.

We have deep relationships with pharmaceutical and biotechnology companies. Drug discovery and translational research efforts increasingly employ genomic information, both to guide research in diseases and to differentiate patient populations that are most likely to respond to particular therapies. We estimate that about half of our sales to these companies supports research, while the other half supports clinical development, including stratification of patient populations based on genetic information. Also, QIAGEN Digital Insights solutions are widely used to guide pharmaceutical research.

Life Sciences customers accounted for \$966 million, \$789 million, and \$770 million of our sales in 2020, 2019 and 2018, respectively.

Competition

In sample technology products, we also experience competition in various markets from other companies providing sample preparation products in kit form and assay solutions. These competitors include, but are not limited to, companies with a focus on nucleic acid separation and purification, assay solutions, transfection reagents and protein fractionation products. We compete with other suppliers through innovative technologies and products, offering a comprehensive solution for nucleic acid collection, pre-treatment, separation and purification needs and providing significant advantages in speed, reliability, convenience, reproducibility and ease of use.

Some of our other products within our molecular diagnostics customer class, such as tests for chlamydia, gonorrhea, hepatitis B virus, herpes simplex virus and CMV, compete against existing screening, monitoring and diagnostic technologies, including tissue culture and antigen-based diagnostic methodologies. We believe the primary competitive factors in the market for gene-based probe diagnostics and other screening devices are clinical validation, performance and reliability, ease of use, standardization, cost, proprietary position, competitors' market shares, access to distribution channels, regulatory approvals and reimbursement.

We believe our competitors typically do not have the same comprehensive approach to sample to insight solutions as we do, nor do they have the ability to provide the broad range of technologies and depth of products and services that we offer. With our complete range of manual and fully automated solutions, we believe we offer the value of standardization of procedures and, therefore, more reliable results. We also believe our integrated strategic approach gives us a competitive advantage. The quality of sample technologies - an area in which we have a unique market and leadership position - is a key prerequisite for reliable molecular assay solutions, which increasingly are being applied in emerging markets such as Molecular Diagnostics and Applied Testing.

Current and potential competitors may be in the process of seeking FDA or foreign regulatory approvals for their respective products. Our continued future success will depend in large part on our ability to maintain our technological advantage over competing products, expand our market presence and preserve customer loyalty. There can be no assurance that we will be able to compete effectively in the future or that development by others will not render our technologies or products non-competitive.

Global Presence by Category of Activity and Geographic Market

Product Category Information

Net sales for the product categories are attributed based on those revenues related to sample and assay products and related revenues including bioinformatics solutions, and revenues derived from instrumentation sales.

Net Sales (in millions)	2020	2019	2018
Consumables and related revenues	\$ 1,615.4	\$ 1,354.1	\$ 1,315.5
Instrumentation	254.9	172.3	186.4
Total	\$ 1,870.3	\$ 1,526.4	\$ 1,501.8

Geographical Information

We currently market products in more than 130 countries. The following table shows total revenue by geographic market for the past three years (net sales are attributed to countries based on the location of the customer, as certain subsidiaries have international distribution):

Net Sales (in millions)	2020	2019	2018
United States	\$ 728.6	\$ 663.9	\$ 632.7
Other Americas	96.9	58.1	60.4
Total Americas	825.5	722.0	693.0
Europe, Middle East and Africa	682.3	487.5	490.3
Asia Pacific, Japan and Rest of World	362.6	317.0	318.5
Total	\$ 1,870.3	\$ 1,526.4	\$ 1,501.8

We have built an increasing presence in key emerging markets as a growth strategy. In 2020, the top seven emerging markets - Brazil, Russia, India, China, South Korea, Mexico and Turkey - contributed approximately 15% of net sales.

Seasonality

Our business does not experience significant predictable seasonality. Historically, a significant portion of our sales has been to researchers, universities, government laboratories and private foundations whose funding is dependent upon grants from government agencies, such as the National Institutes of Health and similar bodies. To the extent that our customers experience increases, decreases or delays in funding arrangements and budget approvals, and to the extent that customers' activities are slowed, such as during times of higher unemployment, vacation periods or delays in approval of government budgets, we may experience fluctuations in sales volumes during the year or delays from one period to the next in the recognition of sales.

Additionally, we have customers who are active in the diagnostics testing market, and sales to these customers fluctuate to the extent that their activities are impacted by public health concerns such as the timing and severity of flu season.

Suppliers

We strive to ensure that our quality standards, compliance with laws and regulations as well as environmental and social standards are maintained along the entire value chain of suppliers and partners. We demand the same from our business partners. Suppliers are subjected to a risk analysis with regard to environmental and social criteria based on their geographic location. Our procurement policy, which is available on our website, contains requirements with regard to legal compliance, bribery and corruption, labor rights, non-discrimination and fair treatment, health and safety as well as environmental protection and conservation. In 2020, all new suppliers have signed our procurement policy. In addition, first-tier suppliers must confirm REACH, RoHS and conflict minerals compliance as appropriate.

As part of our supplier assessment procedures, we evaluate on a monthly basis the supply performance of our raw material and component suppliers, and we assess on a continuous basis potential alternative sources of such materials and components, and on a yearly basis the risks and benefits of reliance on our existing suppliers. We buy materials for our products from many suppliers, and are not dependent on any one supplier or group of suppliers for our business as a whole. Raw materials generally include chemicals, raw separation media, biologics, plastics, electronics and packaging. Raw materials are generally readily available at competitive, stable prices from a number of suppliers. Certain raw materials are produced under our specifications. We have inventory agreements with the majority of our suppliers and we closely monitor stock levels to maintain adequate supplies. We believe we maintain inventories at a sufficient level to ensure reasonable customer service levels and to guard against normal volatility in availability.

Research and Development

We are committed to expanding our global leadership in Sample to Insight solutions in Molecular Diagnostics and the Life Sciences. We target our research and development resources at the most promising technologies to address the unmet needs of our customers in healthcare and research labs in key geographic markets.

As a percentage of sales, our research and development investments are among the highest in our industry. 902 employees in research and development work in QIAGEN centers of excellence on three continents.

Innovation at QIAGEN follows parallel paths:

- Creating new systems for automation of workflows - platforms for laboratories, hospitals and other users of novel molecular technologies.
- Expanding our broad portfolio of novel content - including assays to detect and measure biomarkers for disease or genetic identification.
- Integrating QIAGEN Digital Insights with the testing process - software and cloud-based resources to interpret and transform raw molecular data into useful insights.

Innovation in automation systems positions us in fast-growing fields of molecular testing, and generates ongoing demand for our consumable products. We are developing and commercializing a deep pipeline of assays for preventive screening and diagnostic profiling of diseases, detection of biomarkers to guide Precision Medicine in cancer and other diseases, and other molecular targets. Our assay development program aims to commercialize tests that will add value to our QIAsymphony, QIAstat-Dx and NeuMoDx automation systems in the coming years, as well as next-generation sequencing kits to support our universal NGS franchise and our in vitro diagnostics partnership with Illumina. In 2020, we launched the QIAcuity digital PCR system which is designed to make digital PCR technology available to Life Sciences laboratories worldwide.

We collaborate with many institutions and companies to create innovative molecular solutions. In 2020, we partnered with Ellume, an Australian digital diagnostics company, to develop antigen and antibody tests. These tests provide rapid results through use of the QIAGEN eHub, which gives an automated read-out in less than 15 minutes.

Our QIAGEN Digital Insights teams are developing new software and adding proprietary cloud-based content to support the latest research and clinical trends in molecular testing, especially the interpretation of large volumes of NGS data. We also integrate digital solutions with instruments and molecular content to provide our customers seamless Sample to Insight workflows.

Sales and Marketing

We market our products in more than 130 countries, mainly through subsidiaries in markets in the Americas, Europe, Australia and Asia with the greatest sales potential. Experienced marketing and sales staff, many of them scientists with academic degrees in molecular biology or related areas, sell our products and support our customers. Business managers oversee key accounts to ensure that we serve customers' commercial needs, such as procurement processes, financing, data on costs and the value of our systems, and collaborative relationships. In many markets, we have specialized independent distributors and importers.

Our marketing strategy focuses on providing differentiated, high-quality products across the value chain from Sample to Insight, integrating components into end-to-end solutions when possible, and enhancing relationships with commitment to technical excellence and customer service. Our omni-channel approach seeks to engage customers through their preferred channels - online, by phone, in person, etc. - and to optimize investment in different customer types.

We have initiated actions to drive the growth of our digital marketing channels - including our website (www.qiagen.com), product-specific sites and social media. Our eCommerce team works with clients to provide automated processes supporting a variety of electronic transactions and all major eProcurement systems. Information contained on our website, or accessed through it, is not part of this Annual Report.

My QIAGEN is an easy-to-use self-service portal that is personalized to our customers' needs and enables customers to manage different activities in one central place. Customers can now easily reorder, place bulk orders, apply quotes to their cart, and then track their order status. Functionality in the dashboard allows customers to monitor their instrument use and view the status of licenses and service agreements. Additionally, customers can access our exclusive content and services, such as webinars, handbooks and other documents.

Our GeneGlobe Design & Analysis Hub (www.geneglobe.com) is a valuable outreach to scientists in pharma and academia, enabling researchers to search and order from approximately 25 million pre-designed and custom PCR assay kits, NGS assay panels and other products. The new hub brings next-level experiment planning, execution and follow-up to life science researchers, linking our QIAGEN Digital Insights solutions with ordering of assays to accelerate research.

We use a range of tools to provide customers with direct access to technical support, inform them of new product offerings, and enhance our reputation for technical excellence, high-quality products and commitment to service. For example, our technical service hotline allows existing or potential customers to discuss a wide range of questions about our products and molecular biology procedures, online or via phone, with Ph.D. and M.Sc. scientists at QIAGEN. Frequent communication with customers enables us to identify market needs, learn of new developments and opportunities, and respond with new products.

We also distribute publications, including our catalog, to existing and potential customers worldwide, providing new product information, updates, and articles about existing and new applications. In addition, we hold numerous scientific seminars at clinical, academic and industrial research institutes worldwide and at major scientific and clinical meetings. We conduct direct marketing campaigns to announce new products and special promotions, and we offer personalized electronic newsletters and webinars highlighting molecular biology applications.

For laboratories that frequently rely on our consumables, the QIAstock program maintains inventory on-site to keep up with their requirements. QIAGEN representatives make regular visits to replenish the stock and help with other needs, and we are automating this process with digital technologies. Easy-to-use online ordering, inventory monitoring and customer-driven changes make QIAstock an efficient system for providing ready access to our products for the hundreds of customers worldwide who use this program.

Intellectual Property, Proprietary Rights and Licenses

We have made and expect to continue to make investments in intellectual property. In 2020, additions to our intangible assets outside of business combinations totaled \$24.0 million. While we do not depend solely on any individual patent or technology, we are significantly dependent in the aggregate on technology that we own or license. Therefore, we consider protection of proprietary technologies and products one of the major keys to our business success. We rely on a combination of patents, licenses and trademarks to establish and protect proprietary rights. As of December 31, 2020, we owned 368 issued patents in the United States, 284 issued patents in Germany and 1,813 issued patents in other major industrialized countries. We had 546 pending patent applications. Our policy is to file patent applications in Western Europe, the United States and Japan. Patents in most countries have a term of 20 years from the date of filing the patent application. We intend to aggressively prosecute and enforce patents and to otherwise protect our proprietary technologies. We also rely on trade secrets, know-how, continuing technological innovation and licensing opportunities to develop and maintain our competitive position.

Our practice is to require employees, consultants, outside scientific collaborators, sponsored researchers and other advisers to execute confidentiality agreements upon commencement of their relationships with us. These agreements provide that all confidential information developed by or made known to the individual during the course of the relationship is to be kept confidential and not disclosed to third parties, subject to a right to publish certain information in scientific literature in certain circumstances and to other specific exceptions. In the case of our employees, the agreements provide that all inventions conceived by individuals in the course of their employment will be our exclusive property.

See "Risk Factors" included in Item 3 above for details regarding risks related to our reliance on patents and proprietary rights.

Government Regulations

We are subject to a variety of laws and regulations in the European Union, the United States and other countries. The level and scope of the regulation varies depending on the country or defined economic region, but may include, among other things, the

research, development, testing, clinical trials, manufacture, storage, recordkeeping, approval, labeling, promotion and commercial sales and distribution, of many of our products.

European Union Regulations

In the European Union, *in vitro* diagnostic medical devices (IVDs) have been regulated under EU-Directive 98/79/EC (IVD Directive) and corresponding national provisions. The IVD Directive requires that medical devices meet the essential requirements set out in an annex of the Directive. These requirements include information about the safety and efficacy of the devices. According to the IVD Directive, the Member States presume compliance with these essential requirements in respect of devices which are in conformity with the relevant national standards transposing the harmonized standards of which the reference numbers have been published in the Official Journal of the European Communities. These harmonized standards include ISO 13485:2016, the quality standard for medical device manufacturers.

IVD medical devices, other than devices for performance evaluation, must bear the CE marking of conformity when they are placed on the market. The CE mark is a declaration by the manufacturer that the product meets all the appropriate provisions of the applicable legislation implementing the relevant European Directive. As a general rule, the manufacturer must follow the procedure of the EC Declaration of conformity to obtain this CE marking.

Each European country must adopt its own laws, regulations and administrative provisions necessary to comply with the IVD Directive. Member States may not create any obstacle to the placing on the market or the putting into service within their territory of devices bearing the CE marking according to the conformity assessment procedures.

In May 2022, the Directive will be replaced by the In Vitro Diagnostic Device Regulation (IVDR) (EU) 2017/746 that was published in May 2017 and given a 5-year transition period until its full implementation on May 26, 2022. Unlike the Directive that specifies certain results that must be achieved by each Member State and permits each Member State to decide how to transpose the Directive into national law, the IVDR has binding legal force throughout every Member State and it will become effective on a set date in all the Member States. The major goals of the IVDR are to standardize diagnostic procedures within the EU, increase reliability of diagnostic analysis and enhance patient safety. Under the IVDR as enacted by the European Commission (EC), *in vitro* diagnostics will be subject to additional legal regulatory requirements after it comes into full effect. Among other things, the IVDR introduces a new risk-based classification system and requirements for conformity assessments. Products already certified by a Notified Body may remain on the market until 25 May 2024 under some conditions including fulfillment of specific requirements in the IVDR, but ultimately most products will have to be approved. Under the Directive nearly eighty (80) percent of QIAGEN products were under the self-declaration classification, while under IVDR nearly ninety (90) percent of QIAGEN products will require pre-approval, and those that are in the highest risk class will have to be tested by a Designated Reference Laboratory. In addition, there will also be a greater emphasis on post-market surveillance and submission of post-market performance follow-up reports.

With respect to the current COVID-19 pandemic, the EC has classified SARS-CoV-2 assays as high risk, and designated five (5) Notified Bodies under the IVDR, including QIAGEN's Notified Body, TÜV Rheinland. MedTech Europe has issued guidance in several areas, e.g., clinical benefit, technical documentation, state of art, accessories, and EUDAMED. Open points still being addressed/defined are the designation of EU Reference Laboratories and Common Specification for high risk IVDs.

United Kingdom

The UK's withdrawal from the EU will have major ramifications for IVD manufacturers that will, among other things have to follow new procedures that will apply in the UK including appointment of a UK Responsible Person rather than relying on European Authorized Representatives to manage their compliance efforts in the UK.

The UK Medicine and Healthcare Products Regulatory Agency (MHRA) issued a new guidance on how the country will regulate IVDs after January 1, 2021. According to MHRA, IVDs in the future will require certification in the UK, which is defined as England, Scotland and Wales, while companies will still be able to sell tests in Northern Ireland under existing EU IVD regulations. As described in the guidance, MHRA will continue to recognize CE marks until June 30, 2023. Companies wishing to place IVDs on the UK market will be required to register with MHRA after January 1, 2021, but will still be able to sell CE-IVD marked products for the next two-and-a-half years. After July 1, 2023, companies selling in the UK will have to obtain a new marking called a UK Conformity Assessed mark (UKCA). More information about the new UK requirements should become available in the near future.

U.S. Regulations

In the United States, *in vitro* diagnostic products are subject to regulation by the FDA as medical devices to the extent that they are intended for use in the diagnosis, treatment, mitigation or prevention of disease or other conditions.

They are subject to premarket review and postmarket controls which will differ depending on how the FDA classifies a specific IVD. Certain types of tests like some that we manufacture and sell for research use only in the United States have not been

subject to FDA's premarket review and controls because we do not promote these tests for clinical diagnostic use, and they are labeled "For Research Use Only," or RUO, as required by the FDA. Other tests, known as laboratory developed tests (LDTs) which are *in vitro* diagnostic tests that are designed, manufactured and used within a single laboratory, have generally been subject to enforcement discretion, which means that FDA generally has not enforced premarket review and other applicable FDA requirements. However, as LDTs have increased in complexity, the FDA has begun to take a risk-based approach to their regulation. Congress has also signaled interest in clarifying the regulatory landscape for LDTs. In 2020, the Verifying Accurate, Leading-edge IVCT Development ("VALID") Act was introduced in both chambers of Congress. If enacted, clinical laboratories that develop and offer LDTs and traditional IVD medical device manufacturers would be subjected to the same regulatory oversight. The VALID Act defines both LDTs and IVDs as *in vitro* clinical tests ("IVCT") and would establish a new regulatory framework under the Food, Drug and Cosmetic Act ("FDCA") for the review and oversight of IVCTs. The proposed regulatory framework adopts various concepts from the FDCA, utilizing a risk-based approach that aims to ensure that all marketed IVCTs have a reasonable assurance of both analytical and clinical validity.

The FDA regulates the sale or distribution of medical devices, including *in vitro* diagnostic test kits and some LDTs. The information that must be submitted to the FDA in order to obtain clearance or approval to market a new medical device varies depending on how the medical device is classified by the FDA. Medical devices are classified into one of three classes depending on the controls deemed by the FDA to be necessary to reasonably ensure their safety and effectiveness. Class I devices are subject to general controls, including labeling requirements, and adherence to the FDA's quality system regulations (QSRs), which are device-specific current good manufacturing practices. Class II devices are subject to premarket notification, QSRs, general controls and sometimes special controls, including performance standards and post-market surveillance. Class III devices are subject to most of the previously identified requirements as well as to pre-market approval. Class I devices are exempt from premarket review; most Class II devices require 510(k) clearance, and all Class III devices must receive premarket approval before they can be sold in the United States. The payment of a user fee, that is typically adjusted annually, to the FDA is usually required when a 510(k) notice or premarket approval application is submitted.

510(k) Premarket Notification. A 510(k) premarket notification requires the sponsor to demonstrate that a medical device is substantially equivalent to another marketed device, termed a "predicate device," that is legally marketed in the United States and for which a premarket approval was not required. A device is substantially equivalent to a predicate device if it has the same intended use and technological characteristics as the predicate; or has the same intended use but different technological characteristics, where the information submitted to the FDA does not raise new questions of safety and effectiveness and demonstrates that the device is at least as safe and effective as the legally marketed device.

If the FDA believes that the device is not substantially equivalent to a predicate device, it will issue a "Not Substantially Equivalent" (NSE) determination and designate the device as a Class III device, which will require the submission and approval of a PMA before the new device may be marketed. A person who receives an NSE determination in response to a 510(k) submission may, within 30 days of receipt of the NSE determination, submit a de novo request for the FDA to make a risk-based evaluation for classification of the device into Class I or II. Devices that are classified through the de novo process may be marketed and used as predicates for future 510(k) submissions. The FDA continues to reevaluate the 510(k) pathway and process and the de novo process, and has taken what it describes as a risk-based approach to develop innovative regulatory policy to propose a more "contemporary" approach. In October 2017, the FDA published a final guidance entitled, "De Novo Classification Process (Evaluation of Automatic Class III Designation)," and in December 2018, the FDA published a proposed rule which if finalized is intended to provide structure, clarity and transparency on the de novo classification process. In January 2021, it also published a final guidance entitled "Requests for Feedback and Meetings for Medical Device Submissions: The Q-Submission Program."

Premarket Approval. The PMA process is more complex, costly and time consuming than the 510(k) process. A PMA must be supported by more detailed and comprehensive scientific evidence, including clinical data, to demonstrate the safety and efficacy of the medical device for its intended purpose. If the device is determined to present a "significant risk," the sponsor may not begin a clinical trial until it submits an investigational device exemption (IDE) to the FDA and obtains approval to begin the trial.

After the PMA is submitted, the FDA has 45 days to make a threshold determination that the PMA is sufficiently complete to permit a substantive review. If the PMA is complete, the FDA will file the PMA. The FDA is subject to a performance goal review time for a PMA that is 180 days from the date of filing, although in practice this review time is longer. Questions from the FDA, requests for additional data and referrals to advisory committees may delay the process considerably. The total process may take several years and there is no guarantee that the PMA will ever be approved. Even if approved, the FDA may limit the indications for which the device may be marketed. The FDA may also request additional clinical data as a condition of approval or after the PMA is approved. Any changes to the medical device may require a supplemental PMA to be submitted and approved before changed medical device may be marketed.

Any products sold by us pursuant to FDA clearances or approvals will be subject to pervasive and continuing regulation by the FDA, including record keeping requirements, reporting of adverse experiences with the use of the device and restrictions on the advertising and promotion of our products. Device manufacturers are required to register their establishments and list their devices with the FDA and are subject to periodic inspections by the FDA and certain state agencies. Noncompliance with applicable FDA requirements can result in, among other things, warning letters, fines, injunctions, civil penalties, recalls or seizures of products, total or partial suspension of production, refusal of the FDA to grant 510(k) clearance or PMA approval for new devices, withdrawal of 510(k) clearances and/or PMA approvals and criminal prosecution.

As a result of the COVID-19 pandemic, the US government declared a state of emergency which enabled the FDA to issue emergency use authorizations (EUAs) to provide more timely access to critical medical products (including medicines and tests) that may help during the emergency when there are no adequate, approved, and available alternative options. EUAs are in effect until the emergency declaration ends but can be revised or revoked as FDA considers the needs during the emergency and new data on a product's safety and effectiveness, or as products meet the criteria to become approved, cleared, or licensed by the FDA. Manufacturers of several types of SARS-CoV-2 assays have been granted EUAs, including QIAGEN. These authorizations are only intended for the duration of the emergency declaration, and afterwards will be revoked. The FDA has indicated the withdrawal of the EUA process will be done in a controlled ramp down.

Regulation of Companion Diagnostic Devices

If a sponsor or the FDA believes that a diagnostic test is essential for the safe and effective use of a corresponding therapeutic product, the sponsor of the therapeutic product will typically work with a collaborator to develop an in vitro companion diagnostic device. FDA issued a final guidance document in 2014, entitled "*In Vitro* Companion Diagnostic Devices" that is intended to assist companies developing *in vitro* companion diagnostic devices and companies developing therapeutic products that depend on the use of a specific *in vitro* companion diagnostic for the safe and effective use of the product. The FDA defined an IVD companion diagnostic device as a device that provides information that is essential for the safe and effective use of a corresponding therapeutic product. The FDA also noted that in some cases, if evidence is sufficient to conclude that the IVD companion diagnostic device is appropriate for use with a class of therapeutic products, the intended use/indications for use should name the therapeutic class, rather than each specific product within the class.

In April 2020, FDA published a final guidance entitled, "Developing and Labeling In Vitro Companion Diagnostic Devices for a Specific Group or Class of Oncology Therapeutic Products" that expands on that last issue in the 2014 final guidance and describes considerations for the development and labeling of *in vitro* companion diagnostic devices to support the indicated uses of multiple drug or biological oncology products, when appropriate.

The FDA also issued a draft guidance in July 2016, entitled, "Principles for Codevelopment of an In Vitro Companion Diagnostic Device with a Therapeutic Product" to serve as a practical guide to assist therapeutic product sponsors and IVD sponsors in developing a therapeutic product and an accompanying IVD companion diagnostic.

The FDA subsequently introduced the concept of complementary diagnostics that are distinct from companion diagnostics because they provide additional information about how a drug is used or identify patients who are likely to derive the greatest benefit from therapy without being required for the safe and effective use of that drug. The FDA has not yet provided much guidance on the regulation and use of complementary diagnostics, but several have been approved.

The FDA indicated that it will apply a risk-based approach to determine the regulatory pathway for IVD companion diagnostic devices, as it does with all medical devices. This means that the regulatory pathway will depend on the level of risk to patients, based on the intended use of the IVD companion diagnostic device and the controls necessary to provide a reasonable assurance of safety and effectiveness. The two primary types of marketing pathways for medical devices are clearance of a premarket notification under Section 510(k) of the Federal Food, Drug, and Cosmetic Act, or 510(k), and approval of a premarket approval application, or PMA. We expect that any IVD companion diagnostic device that we develop will utilize the PMA pathway and that a clinical trial performed under an investigational device exemption, or IDE, will have to be completed before the PMA may be submitted.

The FDA expects that the therapeutic sponsor will address the need for an IVD companion diagnostic device in its therapeutic product development plan and that, in most cases, the therapeutic product and its corresponding IVD companion diagnostic device will be developed contemporaneously. If the companion diagnostic test will be used to make critical treatment decisions such as patient selection, treatment assignment, or treatment arm, it will likely be considered a significant risk device for which a clinical trial will be required.

The sponsor of the IVD companion diagnostic device will be required to comply with the FDA's IDE requirements that apply to clinical trials of significant risk devices. If the diagnostic test and the therapeutic drug are studied together to support their respective approvals, the clinical trial must meet both the IDE and IND requirements.

Unique Device Identifier Requirements

In September 2013, the FDA issued its final rule on the Unique Device Identifier. This rule now requires an additional registered identifier, including a special barcode, on all FDA regulated medical devices. The rule is implemented in phases with the first deadline of September 24, 2014 being established for all Class III medical devices. For QIAGEN, this impacted the HC2, QuantiFERON, *artus*, and *therascreen* products. We established a task force to ensure that the deadline was met but there is additional administrative and regulatory burden on us related to the annual reporting of compliance of these products to the new regulation. Class II and Class I products were required to have this same labeling as of September 24, 2016 and 2018, respectively. QIAGEN was fully compliant with the new rule by September 2018. The new rule will also require additional compliance oversight now that it has been implemented. The requirements are now confirmed as part of our annual reporting and PMA submissions. They are also assessed during site inspections by the U.S. FDA.

Regulation of Research Use Only Products

Some of our products are sold for research purposes in the U.S., and labeled “For Research Use Only” (RUO) or “for molecular biology applications.” In November 2013, the FDA issued a final Guidance for Industry and Food and Drug Administration Staff entitled, “Distribution of In Vitro Diagnostic Products Labeled for Research Use Only or Investigational Use Only.” In the Guidance, RUO refers to devices that are in the laboratory phase of development, and investigational use only, or IUO, refers to devices that are in the product testing phase of development. These types of devices are exempt from most regulatory controls. Because we do not promote our RUOs for clinical diagnostic use or provide technical assistance to clinical laboratories with respect to these tests, we believe that these tests are exempt from FDA’s premarket review and other requirements. If the FDA were to disagree with our designation of any of these products, we could be forced to stop selling the product until we obtain appropriate regulatory clearance or approval. Further, it is possible that some of our RUOs may be used by some customers without our knowledge in their LDTs, which they develop, validate and promote for clinical use. However, as previously noted, we do not promote these products for use in LDTs or assist in the development of the LDTs for clinical diagnostic use.

The 21st Century Cures Act (Cures Act) was enacted into law on December 13, 2016, after a bipartisan, multi-year effort. The Cures Act primarily affects activities of the Department of Health and Human Services (HHS) and its agencies, including the Food and Drug Administration (FDA or the Agency). On June 6, 2017, the Commissioner of Food and Drugs reported to Congress as required by the Cures Act. This report included the Food & Drug Administration Work Plan and Proposed Funding Allocations of FDA Innovation Account (Required by Section 1002 of the 21st Century Cures Act (Public Law 114-255)). This is now being implemented with a broad spectrum of initiatives within the FDA with the goal to support patients with improved and timely access to safe and efficacious medical products. For industry, it is anticipated that some processes will become less burdensome with more rapid approval/clearance cycles while others will continue to require significant investment.

HIPAA and Other Privacy and Security Laws

The Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), established comprehensive federal standards for the privacy and security of health information. The HIPAA standards apply to three types of organizations: health plans, healthcare clearing houses, and healthcare providers that conduct certain healthcare transactions electronically (“Covered Entities”). Title II of HIPAA, the Administrative Simplification Act, contains provisions that address the privacy of health data, the security of health data, the standardization of identifying numbers used in the healthcare system and the standardization of certain healthcare transactions. The privacy regulations protect medical records and other protected health information by limiting their use and release, giving patients the right to access their medical records and limiting most disclosures of health information to the minimum amount necessary to accomplish an intended purpose. The HIPAA security standards require the adoption of administrative, physical, and technical safeguards and the adoption of written security policies and procedures.

On February 17, 2009, Congress enacted Subtitle D of the Health Information Technology for Economic and Clinical Health Act, or HITECH, provisions of the American Recovery and Reinvestment Act of 2009. HITECH expanded and strengthened HIPAA, created new targets for enforcement, imposed new penalties for noncompliance and established new breach notification requirements for Covered Entities. Regulations implementing major provisions of HITECH were finalized on January 25, 2013 through publication of the HIPAA Omnibus Rule (the “Omnibus Rule”).

Under HITECH's breach notification requirements, Covered Entities must report breaches of protected health information that has not been encrypted or otherwise secured in accordance with guidance from the Secretary of the U.S. Department of Health and Human Services (the “Secretary”). Required breach notices must be made as soon as is reasonably practicable, but no later than 60 days following discovery of the breach. Reports must be made to affected individuals and to the Secretary and, in some cases depending on the size of the breach, they must be reported through local and national media. Breach reports can lead to investigation, enforcement and civil litigation, including class action lawsuits.

We are currently subject to the HIPAA regulations and maintain an active compliance program that is designed to identify security incidents and other issues in a timely fashion and enable us to remediate, mitigate harm or report if required by law. We are subject to prosecution and/or administrative enforcement and increased civil and criminal penalties for non-compliance,

including a new, four-tiered system of monetary penalties adopted under HITECH. We are also subject to enforcement by state attorneys general who were given authority to enforce HIPAA under HITECH. To avoid penalties under the HITECH breach notification provisions, we must ensure that breaches of protected health information are promptly detected and reported within the company, so that we can make all required notifications on a timely basis. However, even if we make required reports on a timely basis, we may still be subject to penalties for the underlying breach.

In addition to the federal privacy and security regulations, there are a number of state laws regarding the privacy and security of health information and personal data that are applicable to our clinical laboratories. Many states have also implemented genetic testing and privacy laws imposing specific patient consent requirements and protecting test results by strictly limiting the disclosure of those results. State requirements are particularly stringent regarding predictive genetic tests, due to the risk of genetic discrimination against healthy patients identified through testing as being at a high risk for disease. We believe that we have taken the steps required of us to comply with health information privacy and security statutes and regulations, including genetic testing and genetic information privacy laws in all jurisdictions, both state and federal. However, these laws constantly change, and we may not be able to maintain compliance in all jurisdictions where we do business. Failure to maintain compliance, or changes in state or federal laws regarding privacy or security could result in civil and/or criminal penalties, significant reputational damage and could have a material adverse effect on our business.

The Genetic Information Nondiscrimination Act of 2008, also referred to as GINA, is a federal law that protects individuals from discrimination in the health insurance and employment contexts because of DNA characteristics that may affect their health. GINA prohibits covered employers from requesting, obtaining, or using employees' genetic information (subject to limited exceptions), and prohibits covered health insurers from requesting genetic information or using any such information they may already have for purposes of making eligibility, premium, or coverage-related decisions.

Many states have also adopted genetic testing and privacy laws. These laws typically require a specific, written consent for genetic testing as well as consent for the disclosure of genetic test results and otherwise limit uses and disclosures of genetic testing results. A few states have adopted laws that give their residents property rights in their genetic information.

Privacy and data security laws, including those relating to health information, are complex, overlapping and rapidly evolving. As our activities evolve and expand, additional laws may be implicated. For example, the California Consumer Privacy Act of 2018, which took effect on January 1, 2020, imposes requirements and protections upon the processing of personal data, aimed at giving California consumers more visibility and control over their personal information. There are also non-U.S. privacy laws, such as the General Data Protection Regulation (GDPR) of the European Union, that impose restrictions on the transfer, access, use, and disclosure of health and other personal information. We have implemented the requirements set forth by the GDPR, which took effect on May 25, 2018. All of these laws impact our business either directly or indirectly. Our failure to comply with applicable privacy or security laws or significant changes in these laws could significantly impact our business and future business plans. For example, we may be subject to regulatory action or lawsuits in the event we fail to comply with applicable privacy laws. We may face significant liability in the event any of the personal information we maintain is lost or otherwise subject to misuse or other wrongful use, access or disclosure.

The General Data Protection Regulation (“GDPR”), which applies to all EU member states from May 25, 2018, also applies to some of our operations.

We are subject to laws and regulations related to the protection of the environment, the health and safety of employees and the handling, transportation and disposal of medical specimens, infectious and hazardous waste and radioactive materials. For example, the U.S. Occupational Safety and Health Administration (“OSHA”) has established extensive requirements relating specifically to workplace safety for healthcare employers in the U.S. This includes requirements to develop and implement multi-faceted programs to protect workers from exposure to blood-borne pathogens, including preventing or minimizing any exposure through needle stick injuries. For purposes of transportation, some biological materials and laboratory supplies are classified as hazardous materials and are subject to regulation by one or more of the following agencies: the U.S. Department of Transportation, the U.S. Public Health Service, the United States Postal Service, the Office of Foreign Assets Control, and the International Air Transport Association. We generally use third-party vendors to dispose of regulated medical waste, hazardous waste and radioactive materials and contractually require them to comply with applicable laws and regulations.

Compliance with Fraud and Abuse Laws

We have to comply with various U.S. federal and state laws, rules and regulations pertaining to healthcare fraud and abuse, including anti-kickback laws and physician self-referral laws, rules and regulations. Violations of the fraud and abuse laws are punishable by criminal and civil sanctions, including, in some instances, exclusion from participation in federal and state healthcare programs, including Medicare and Medicaid.

Anti-Kickback Statute

The federal Anti-Kickback Statute prohibits persons from knowingly or willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in exchange for or to induce:

- The referral of an individual for a service or product for which payment may be made by Medicare, Medicaid or other government-sponsored healthcare program; or
- purchasing, ordering, arranging for, or recommending the ordering of, any service or product for which payment may be made by a government-sponsored healthcare program.

The definition of “remuneration” has been broadly interpreted to include anything of value, including such items as gifts, certain discounts, waiver of payments, and providing anything at less than its fair market value. In addition, several courts have interpreted the law to mean that if “one purpose” of an arrangement is intended to induce referrals, the statute is violated.

The Anti-Kickback Statute is broad and prohibits many arrangements and practices that are lawful in businesses outside of the healthcare industry. Recognizing that the Anti-Kickback Statute is broad and may technically prohibit many innocuous or beneficial arrangements, the Office of Inspector General of the Department of Health and Human Services (OIG) has issued regulations, commonly known as "safe harbors." These safe harbors set forth certain requirements that, if fully met, will insulate healthcare providers, medical device manufacturers, and others, from prosecution under the Anti-Kickback Statute. Although full compliance with these safe harbor provisions ensures against prosecution under the Anti-Kickback Statute, full compliance is often difficult and the failure of a transaction or arrangement to fit within a specific safe harbor does not necessarily mean that the transaction or arrangement is illegal or that prosecution under the Anti-Kickback Statute will be pursued. However, conduct and business arrangements that do not fully satisfy each applicable safe harbor may result in increased scrutiny by government enforcement authorities such as the OIG. The statutory penalties for violating the Anti-Kickback Statute include imprisonment for up to five years and criminal fines of up to \$25,000 per violation. In addition, through application of other laws, conduct that violates the Anti-Kickback Statute can also give rise to False Claims Act lawsuits, civil monetary penalties and possible exclusion from Medicare and Medicaid and other federal healthcare programs. In addition to the Federal Anti-Kickback Statute, many states have their own kickback laws. Often, these laws closely follow the language of the federal law, although they do not always have the same scope, exceptions, safe harbors or sanctions. In some states, these anti-kickback laws apply not only to payment made by a government health care program but also with respect to other payors, including commercial insurance companies.

We have and may in the future, enter into various agreements with health care providers who perform services for us, including some who make clinical decisions to use our products. All such arrangements have been structured with the intention of complying with all applicable fraud and abuse laws, including the Anti-Kickback Statute.

Other Fraud and Abuse Laws

The federal False Claims Act (FCA) prohibits any person from knowingly presenting, or causing to be presented, a false claim or knowingly making, or causing to be made, a false statement to obtain payment from the federal government. Those found in violation of the FCA can be subject to fines and penalties of three times the damages sustained by the government, plus mandatory civil penalties of between \$5,500 and \$11,000 for each separate false claim. Actions filed under the FCA can be brought by any individual on behalf of the government, a "qui tam" action, and such individual, known as a "relator" or, more commonly, as a "whistleblower," who may share in any amounts paid by the entity to the government in damages and penalties or by way of settlement. In addition, certain states have enacted laws modeled after the FCA, and this legislative activity is expected to increase. Qui tam actions have increased significantly in recent years, causing greater numbers of healthcare companies, including medical device manufacturers, to defend false claim actions, pay damages and penalties or be excluded from Medicare, Medicaid or other federal or state healthcare programs as a result of investigations arising out of such actions.

The federal ban on physician self-referrals, commonly known as the Stark Law, prohibits, subject to certain exceptions, physician referrals of Medicare and Medicaid patients to an entity providing certain “designated health services” if the physician or an immediate family member of the physician has any financial relationship with the entity. Penalties for violating the Stark Law include fines, civil monetary penalties and possible exclusion from federal healthcare programs. In addition to the Stark Law, many states have their own self-referral laws. Often, these laws closely follow the language of the federal law, although they do not always have the same scope, exceptions or safe harbors.

The anti-inducement law (Section 1128A(a)(5) of the Social Security Act), prohibits providers from offering anything of value to a Medicare or Medicaid beneficiary to induce the beneficiary to use items or services covered by either program. Additionally, the Civil Monetary Penalties Law (Section 1128A of the Social Security Act), authorizes the United States Department of Health and Human Services to impose civil penalties administratively for various fraudulent or abusive acts.

The OIG also has authority to bring administrative actions against entities for alleged violations of a number of prohibitions, including the Anti-Kickback Statute and the Stark Law. The OIG may seek to impose civil monetary penalties or exclusion from the Medicare, Medicaid and other federal healthcare programs. Civil monetary penalties can range from \$2,000 to \$50,000 for each violation or failure plus, in certain circumstances, three times the amounts claimed in reimbursement or illegal remuneration. Typically, exclusions last for five years.

In addition, we must comply with a variety of other laws, such as laws prohibiting false claims for reimbursement under

Medicare and Medicaid, all of which can also be triggered by violations of federal anti-kickback laws; the Health Insurance Portability and Accounting Act of 1996, which makes it a federal crime to commit healthcare fraud and make false statements; and the Federal Trade Commission Act and similar laws regulating advertisement and consumer protections.

There are also an increasing number of state “sunshine” laws that require manufacturers to provide reports to state governments on pricing and marketing information. Several states have enacted legislation requiring manufacturers, including medical device companies to, among other things, establish marketing compliance programs, file periodic reports with the state, make periodic public disclosures on sales and marketing activities, and to prohibit or limit certain other sales and marketing practices. In addition, a federal law known as the Physician Payments Sunshine Act, requires manufacturers, including medical device manufacturers, to track and report to the federal government certain payments and other transfers of value made to physicians and teaching hospitals and ownership or investment interests held by physicians and their immediate family members. The federal government discloses the reported information on a publicly available website. If we fail to track and report as required by these laws or to otherwise comply with these laws, we could be subject to the penalty provisions of the pertinent state and federal authorities.

Despite extensive procedures to ensure compliance, we may also be exposed to liabilities under the U.S. Foreign Corrupt Practices Act, or FCPA, which generally prohibits companies and their intermediaries from making corrupt payments to foreign officials for the purpose of obtaining or maintaining business or otherwise obtaining favorable treatment, and requires companies to maintain adequate record-keeping and internal accounting practices to accurately reflect the transactions of the company. We are also subject to a number of other laws and regulations relating to money laundering, international money transfers and electronic fund transfers. These laws apply to companies, individual directors, officers, employees and agents.

Environment, Health and Safety

We are subject to laws and regulations related to the protection of the environment, the health and safety of employees and the handling, transportation and disposal of medical specimens, infectious and hazardous waste and radioactive materials. For example, the U.S. Occupational Safety and Health Administration (OSHA) has established extensive requirements relating specifically to workplace safety for healthcare employers in the U.S. This includes requirements to develop and implement multi-faceted programs to protect workers from exposure to blood-borne pathogens, such as HIV and hepatitis B and C, including preventing or minimizing any exposure through needle stick injuries. For purposes of transportation, some biological materials and laboratory supplies are classified as hazardous materials and are subject to regulation by one or more of the following agencies: the U.S. Department of Transportation, the U.S. Public Health Service, the United States Postal Service and the International Air Transport Association. The U.S. Environmental Protection Agency (EPA) has also promulgated regulations setting forth importation, labelling, and registration requirements, among others, which may apply to certain products and/or establishments of the company.

Other Country Specific Requirements

In many countries outside of the United States and the EU, coverage, pricing and reimbursement approvals are also required. Additionally, many major markets are adopting regulations and requirements similar to those of the U.S. Food and Drug Administration (FDA), which require additional submission activities and management of country-specific regulatory requirements. This is being led by the International Medical Device Regulators Forum (IMDRF). This Forum consists of regulators from around the world that have signed governmental agreements to align global regulations, especially around submissions and approvals. In the long term this holds the promise of reducing volatility and complexity in the regulatory landscape.

Reimbursement

United States

In the United States, payments for diagnostic tests come from several sources, including third party payors such as health maintenance organizations and preferred provider organizations; government health care programs such as Medicare or Medicaid; and, in most cases, the patients themselves. For many years, federal and state governments in the United States have pursued methods to reduce the cost of healthcare delivery. For example, in 2010, the United States enacted major healthcare reform legislation known as the Patient Protection and Affordable Care Act (ACA). Such changes have had, and are expected to continue to have, an impact on our business. At present, Medicare payment rates are affected by across-the-board federal budget cuts commonly referred to as “sequestration.” Under sequestration, the Centers for Medicare & Medicaid Services (CMS), the federal agency responsible for administering Medicare and Medicaid, reduced Medicare payments to providers by 2% annually beginning in 2013 and through 2023.

We frequently identify value propositions on our products and communicate them to payors, providers, and patient stakeholders and attempt to positively impact coverage, coding and payment pathways. However, we have no direct control over payor decisions with respect to coverage and payment levels for our products. The manner and level of reimbursement may depend on the site of care, the procedure(s) performed, the final patient diagnosis, the device(s) and/or drug(s) utilized, the available

budget, or a combination of these factors, and coverage and payment levels are determined at each payor's discretion. Changes in reimbursement levels or methods may positively or negatively affect sales of our products in any given country for any given product. At QIAGEN, we work with several specialized reimbursement consulting companies and maintain regular contact with payors.

As government programs seek to expand healthcare coverage for their citizens, they have at the same time sought to control costs by limiting the amount of reimbursement they will pay for particular procedures, products or services. Many third-party payors have developed payment and delivery mechanisms to support cost control efforts and to focus on paying for quality. Such mechanisms include payment reductions, pay for performance metrics, quality-based performance payments, restrictive coverage policies, studies to compare effectiveness and patient outcomes, and technology assessments. These changes have increased emphasis on the delivery of more cost-effective and quality-driven healthcare.

Code Assignment. In the United States, a third-party payor's decisions regarding coverage and payment are impacted, in large part, by the specific Current Procedural Terminology, or CPT, code used to identify a test. The American Medical Association, or AMA, publishes the CPT, which identifies codes, along with descriptions, for reporting medical services and procedures. The purpose of the CPT is to provide a uniform language that accurately describes medical, surgical, and diagnostic services and therefore to ensure reliable nationwide communication among healthcare providers, patients, and third-party payors. CMS uses its own HCPCS codes for medical billing and reimbursement purposes. Level I HCPCS codes reflect current CPT codes, while Level II codes primarily represent non-physician services and Level III codes are local codes developed by Medicaid agencies, Medicare contractors and private insurers. Proprietary Laboratory Analyses (PLA) Codes are an addition to the CPT® code set approved by the AMA CPT® Editorial Panel. They are alpha-numeric CPT codes with a corresponding descriptor for labs or manufacturers that want to more specifically identify their test.

A manufacturer of in vitro diagnostic kits or a provider of laboratory services may request establishment of a Category I CPT code for a new product or the PLA Code or both. In addition, Z-Code identifiers are unique five-character alphanumeric tracking codes associated with a specific molecular diagnostic test. When a claim is submitted, it includes the associated CPT code and the Z-Code identifier is entered as a device code. Assignment of a specific CPT code ensures routine processing and payment for a diagnostic test by both private and government third-party payors.

The AMA has specific procedures for establishing a new CPT code and, if appropriate, for modifying existing nomenclature to incorporate a new test into an existing code. If the AMA concludes that a new code or modification of nomenclature is unnecessary, the AMA will inform the requestor how to use one or more existing codes to report the test.

While the AMA's decision is pending, billing and collection may be sought under an existing, non-specific CPT code. A manufacturer or provider may decide not to request assignment of a CPT code and instead use an existing, non-specific code for reimbursement purposes. However, use of such codes may result in more frequent denials and/or requests for supporting clinical documentation from the third-party payor and in lower reimbursement rates, which may vary based on geographical location.

CMS reimbursement rates for clinical diagnostic tests are defined by CPT and HCPS codes in the Clinical Laboratory Fee Schedule (CLFS). In 2012, the AMA added 127 new CPT codes for molecular pathology services that became effective on January 1, 2013. These new CPT codes are biomarker specific and were designed to replace the previous methodology of billing for molecular pathology testing, which involved "stacking" a series of non-biomarker specific CPT codes together to describe the testing performed. CMS issued final national reimbursement prices for the new CPT codes in November 2013. These federal reimbursement amounts are widely acknowledged to be lower than the reimbursement obtained by the now outdated "stacking" method, but commercial insurers and Medicare contractors are still in the process of solidifying their coverage and reimbursement policies for the testing described by these new CPT codes.

As of January 1, 2018, in accordance with the Protecting Access to Medicare Act of 2014 (PAMA), CMS began calculating Medicare reimbursement rates for certain clinical diagnostic tests using weighted median private payor rates, which are based on rate information reported by applicable laboratories. This new rate methodology means the lower reimbursement rates previously experienced in the field of molecular pathology testing now extends to additional diagnostic testing codes on the CLFS. On December 20, 2019, the President signed the Further Consolidated Appropriations Act, which included the Laboratory Access for Beneficiaries Act, or the LAB Act. The LAB Act delays by one year the reporting of payment data under PAMA for clinical laboratory diagnostic tests that are not advanced diagnostic laboratory tests. CDLT data for the collection period of January 1, 2019 through June 30, 2019, which was supposed to be reported in 2020, must now be reported between January 1, 2021 and March 31, 2021. Data reporting will then resume on a three-year cycle beginning in 2024. Under PAMA, as amended by the LAB Act, any reduction to a particular payment rate resulting from the new methodology is limited to 10% per test per year in 2020 and to 15% per test per year in each of the years 2021 through 2023.

Coverage Decisions. When deciding whether to cover a particular diagnostic test, private and government third-party payors generally consider whether the test is a medically necessary and, if so, whether the test will directly impact clinical decision making. For coverage, the testing method should be considered scientifically valid to identify the specific gene biomarker or

gene mutation, and must have been demonstrated to improve clinical outcomes for the patient's condition. Coverage of a drug therapy and its companion diagnostic are usually validated by a NCCN category 1, 2A or 2B recommendation. However, most third-party payors do not cover experimental services. Coverage determinations are often influenced by current standards of practice and clinical data, particularly at the local level. CMS has the authority to make coverage determinations on a national basis, but most Medicare coverage decisions are made at the local level by contractors that administer the Medicare program in specified geographic areas. Private and government third-party payors have separate processes for making coverage determinations, and private third-party payors may or may not follow Medicare's coverage decisions. If a third-party payor has a coverage determination in place for a particular diagnostic test, billing for that test must comply with the established policy. Otherwise, the third-party payor makes reimbursement decisions on a case-by-case basis.

Payment. Payment for covered diagnostic tests is determined based on various methodologies, including prospective payment systems and fee schedules. In addition, private third-party payors may negotiate contractual rates with participating providers, establish fee schedule rates, or set rates as a percentage of the billed charge. Diagnostic tests furnished to Medicare inpatients generally are included in the bundled payment made to the hospital under Medicare's Inpatient Prospective Payment System, utilizing Diagnosis Related Groups (DRGs) depending on the patient's condition. Payment rates for diagnostic tests furnished to Medicare beneficiaries in outpatient settings are the lesser of the amount billed, the local fee for a geographic area, or a national limit. Each year, the fee schedule is updated for inflation and could be modified by Congress in accordance with the CLFS rules and provisions. Medicaid programs generally pay for diagnostic tests based on a fee schedule, but reimbursement varies by geographic region.

European Union

In the European Union, the reimbursement mechanisms used by private and public health insurers vary by country. For the public systems, reimbursement is determined by guidelines established by the legislator or responsible national authority. As elsewhere, inclusion in reimbursement catalogues focuses on the medical usefulness, need, quality and economic benefits to patients and the healthcare system. Acceptance for reimbursement comes with cost, use, and often volume restrictions, which again can vary by country.

Conflict Minerals

U.S. legislation has been enacted to improve transparency and accountability concerning the sourcing of conflict minerals from mines located in the conflict zones of the Democratic Republic of Congo (DRC) and its adjoining countries. The term conflict minerals currently encompasses tantalum, tin, tungsten (or their ores) and gold. Certain of our instrumentation product components that we purchase from third party suppliers contain gold. This U.S. legislation requires manufacturers, such as us, to investigate our supply chain and disclose if there is any use of conflict minerals originating in the DRC or adjoining countries. We conduct due diligence measures annually to determine the presence of conflict minerals in our products and the source of any such conflict minerals. Because we do not purchase conflict minerals directly from smelters or refineries, we rely on our suppliers to specify to us their conflict minerals sources and declare their conflict minerals status. We disclosed our most recent conflict minerals findings to the Securities Exchange Commission for the calendar year ending December 31, 2019 on Form SD on March 30, 2020 and will provide updated disclosure to the Securities Exchange Commission as required.

Organizational Structure

QIAGEN N.V. is the holding company for more than 50 consolidated subsidiaries, many of which have the primary function of distributing our products and services on a regional basis. Certain subsidiaries also have research and development or production activities. A listing of our significant subsidiaries and their jurisdictions of incorporation is included in Exhibit 8.1 to this Annual Report.

Description of Property

Our production and manufacturing facilities for consumable products are located in Germany, the United States and China. Our facilities for software development are located in the United States, Germany, Poland, Denmark and Romania. In recent years, we have made investments in automated and interchangeable production equipment to increase our production capacity and improve efficiency. Our production and manufacturing operations are highly integrated and benefit from sophisticated inventory control. Production management personnel are highly qualified, and many have advanced degrees in engineering, business and science. We also have installed and continue to expand production-planning systems that are included in our integrated information and control system based on the SAP R/3 business software package from SAP SE. Worldwide, we use SAP software to integrate most of our operating subsidiaries. Capital expenditures for property, plant and equipment totaled \$132.8 million, \$118.0 million and \$109.8 million for 2020, 2019 and 2018, respectively.

We have an established quality system, including standard manufacturing and documentation procedures, intended to ensure that products are produced and tested in accordance with the FDA's Quality System Regulations, which impose current Good Manufacturing Practice (cGMP) requirements. For cGMP production, special areas were built in our facilities in Hilden, Germany, Germantown, Maryland and Shenzhen, China. These facilities operate in accordance with cGMP requirements.

The consumable products manufactured at QIAGEN GmbH in Germany, and QIAGEN Sciences LLC in Maryland, are produced under ISO 9001: 2008, ISO 13485:2012, ISO 13485:2003 CMDCAS. Our certifications form part of our ongoing commitment to provide our customers with high-quality, state-of-the-art sample and assay technologies under our Total Quality Management system.

Our facilities in Hilden, Germany, currently occupy a total of approximately 786,000 square feet. In 2020, we made additional investments to expand production lines to meet both current demand as well as future growth. Our production capacity is increased through our manufacturing and research facilities in the United States. QIAGEN Sciences, LLC owns a 24-acre site in Germantown, Maryland. The 285,000-square-foot Germantown facility consists of several buildings in a campus-like arrangement and can accommodate over 500 employees. There is room for future expansion of up to 300,000 square feet of facility space. In 2020, we announced our plans to renovate the manufacturing facility to accommodate expanded production of testing products, including for COVID-19.

We lease facilities in Frederick, Maryland, comprising 42,000 square feet for manufacturing, warehousing, distribution and research operations and also facilities in Beverly, Massachusetts, with 44,000 square feet for enzyme manufacturing. Additionally, we have leased facilities in Redwood City, California, with 12,700 square feet for bioinformatics and 19,000 square feet in Minden, Nevada, for Service Solutions. We have shared service centers that lease facilities in Wroclaw, Poland, (65,100 square feet) and Manila, Philippines (29,300 square feet). Additionally, we lease facilities in Shenzhen, China, and Manchester, United Kingdom, for research operations. Other subsidiaries throughout the world lease smaller amounts of space. Our corporate headquarters are located in leased office space in Venlo, The Netherlands.

We believe our existing production and distribution facilities can support anticipated production needs for the next 36 months. Our production and manufacturing operations are subject to various federal, state, and local laws and regulations including environmental regulations. We do not believe we have any material issues relating to these laws and regulations.

Human Capital

The skills, knowledge, dedication and passion of our employees are critical for the success of QIAGEN. We want to recruit, support and retain the best employees, offering performance-based remuneration, development opportunities and measures to balance work and family life. We are committed to diversity in our teams, fueling innovation and engagement with our customers and business partners. In a fast-changing, competitive business environment, QIAGEN has a significant commitment to being an employer of choice and further enhancing our position as a great place to work. At the end of 2020, QIAGEN had 5,610 full-time equivalent employees, an increase of 10% from 5,096 at the end of 2019.

Recognizing that our employees are the key to our success, we seek to be a great place to work. In 2020, we were once again recognized as a “Top Employer” in Germany by the Top Employer Institute, a global authority on recognizing excellence in people practices. Also in 2020, our subsidiary in Brazil was certified for the first time as a “Great Place to Work,” and awarded one of the “Best Workplaces” in healthcare as well as Top 5 in diagnostic medicine. Finally, our U.S. headquarters in Germantown, Maryland, was awarded five different awards by the Alliance for Workplace Excellence (AWE), including the Workplace Excellence Seal of Approval, Diversity Champion Award, and Best Practices Supporting Workers 50+.

We are committed to creating an environment that is rich in diversity and empowers all employees. Diverse teams strengthen our organization through the variety of ideas, perspectives and approaches they bring to our business. Our teams outperform and succeed when they are composed of individuals with the widest possible range of personalities, backgrounds and traits. That’s why we value each person’s uniqueness and maintain an environment where all individuals can contribute to our success based on their strengths and characteristics. In 2020, our multicultural workforce was composed of at least 80 nationalities with an average age of 40.1. With 48% women, we are well balanced in terms of gender on an aggregate level. Our strategic initiative on gender diversity, which began in 2018, has yielded remarkable results in the past years, particularly with regard to leadership positions. The participation of women in leadership roles rose from just under 28% in 2018 to just under 32% in 2020 as a result of a series of initiatives to drive awareness, engagement, and development of this area among our leadership team.

Employee development is viewed as integral to the success of creating lasting value for our customers, patients, colleagues, partners, and shareholders. We offer opportunities to work on exciting tasks and projects in an engaging work environment. Employees join QIAGEN and stay with QIAGEN because they can see how their work makes a difference to people’s lives everywhere in the world. We offer various training platforms that provide the possibility to either use our global e-learning portfolio or to participate in personal trainings usually offered in a blended format. The focus is on job-specific skills, compliance, competencies and leadership development. In 2020, we ran a mix of virtual instructor-led and e-learning courses. All in person trainings were put on hold in 2020 due to the COVID-19 pandemic.

Internal and external ratings have improved significantly and support our preferred position in the global working environment. Specific retention targets have been met with a 9% voluntary turnover rate for the total workforce and a voluntary turnover rate of 5% for the management level in 2020.

Since the creation of QIAGEN, management has formed a culture that seeks to attract and retain the best talent worldwide and reward associates for performance. This compensation system fosters a focus on achieving corporate strategic initiatives as well as personal accountability. We participate in various compensation benchmarking surveys that provide information on the level and mix of compensation awarded by companies and industries for a broad range of positions around the world. In the case of QIAGEN, these include many peer life science and diagnostics companies based in the U.S. QIAGEN has a “pay for performance” culture, with the compensation of employees linked to the achievement of corporate financial and individual performance goals. Business goals are established by senior management. These goals are set at ambitious levels each year to motivate and drive performance, with a focus on both short-term and long-term quantifiable objectives. Furthermore, to align our compensation programs with the interests of shareholders, management levels receive a portion of their total compensation in the form of long-term compensation, which is granted as equity as a reward for performance.

In 2020 as a consequence of the global pandemic, a large portion of our employees worked remotely beginning in the first quarter of 2020 and continuing throughout the year. For our essential workers and in our locations where a small number of employees continued to work on site, we implemented safety measures including routine on-site testing at critical manufacturing facilities to reduce the risk of COVID-19 transmission.

For more information about our human capital, please also refer our non-financial statement available at our website.

Item 4A. Unresolved Staff Comments

Not applicable.

Item 5. 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" in Item 3 of this Annual Report.

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 December 31, 2020, we employed more than 5,600 people in more than 35 locations worldwide.

Recent Acquisitions

We have made a number of strategic acquisitions and implemented other strategic transactions aiming to achieve market-leading positions with innovative technologies in high-growth areas of molecular diagnostics and research. These transactions have enhanced our product offerings and technology platforms, as well as our geographic footprint. They include:

- In September 2020, we acquired the remaining 80.1% of NeuMoDx, a company that designs and develops molecular diagnostic solutions for hospital and clinical reference laboratories. Prior to acquisition, we held a 19.9% investment in NeuMoDx and entered a strategic partnership in 2018 to commercialize next-generation, fully integrated automation systems for PCR testing. The NeuMoDx 288 (high-throughput version) and NeuMoDx 96 (mid-throughput) systems

help clinical laboratories process increasing molecular test volumes and deliver more rapid diagnostic insights. We distribute these systems in Europe and other markets outside the United States.

- In January 2019, we began developing next-generation systems for digital PCR and acquired the digital PCR assets of Formulatrix, Inc., a developer of laboratory automation solutions. In 2020, we began commercialization of fully integrated digital PCR solutions, combining QIAGEN technologies and automation with the Formulatrix assets we acquired. Known as QIAcuity digital PCR, the system offers highly automated workflows, quicker time-to-result, and higher multiplexing and throughput flexibility than current digital PCR platforms. Digital PCR is one of the fastest-growing molecular testing applications in the life sciences industry. We paid Formulatrix \$125.0 million in cash upon closing and paid \$135.9 million during 2020 for the remaining milestone payments.
- Also in January 2019, we acquired N-of-One, Inc., a pioneer in molecular oncology decision support services, to strengthen our bioinformatics leadership in clinical NGS interpretation. The acquisition broadened the QIAGEN Digital Insights offering of software, content and service-based solutions. N-of-One's services and content have been integrated into QIAGEN Clinical Insights (QCI), adding medical interpretation and real-world evidence insights. The N-of-One somatic cancer database, drawing upon more than 125,000 anonymized patient samples, has increased our lead as the provider of the industry's largest genomics knowledge base.

Our financial results include the impacts of recent acquisitions from their effective dates.

Year Ended December 31, 2020, Compared to 2019

Net Sales

(in millions)	2020		2019		% change
	Net sales	% of net sales	Net sales	% of net sales	
Consumables and related revenues	\$ 1,615.4	86%	\$ 1,354.1	89%	+19%
Instruments	254.9	14%	172.3	11%	+48%
Net Sales	\$ 1,870.3		\$ 1,526.4		+23%

Non-COVID-19 and COVID-19 products

Non-COVID-19 products	\$ 1,252.4	67%	\$ 1,383.1	91%	-9%
COVID-19 products	617.9	33%	143.3	9%	+331%
Net Sales	\$ 1,870.3		\$ 1,526.4		+23%

In 2020, we experienced significant demand for solutions used in the COVID-19 pandemic and experienced improving trends in other areas of the business during the second half of 2020.

The instruments portfolio saw strong sales growth across multiple product categories including sample preparation platforms as well as general and integrated PCR equipment and platforms. Consumables and related revenues benefited from increased output of key consumable products including sample technologies kits and testing cartridges for QIAstat-Dx and NeuMoDx instruments. Net sales were positively impacted by two percentage points from favorable currency movements against the U.S. dollar.

(in millions) Customer class	2020		2019		% change
	Net sales	% of net sales	Net sales	% of net sales	
Molecular Diagnostics	\$ 904.0	48%	\$ 737.1	48%	+23%
Life Sciences	966.4	52%	789.3	52%	+22%
Net Sales	\$ 1,870.3		\$ 1,526.4		+23%

Product group

Sample technologies	\$ 803.9	43%	\$ 548.4	36%	+47%
Diagnostic solutions	460.8	25%	465.5	30%	-1%
PCR / Nucleic acid amplification	363.6	19%	224.7	15%	+62%
Genomics / NGS	165.6	9%	183.8	12%	-10%
Other	76.6	4%	104.1	7%	-26%
Net Sales	\$ 1,870.3		\$ 1,526.4		+23%

Sample technologies were driven by strong growth in both consumables and instruments. Key drivers of this product group, which represents products involved in the first step in any molecular lab process, included COVID-19 solutions such as automated RNA extraction kits along with the launch of QIAprep& and improving trends in non-COVID products in the later portion of 2020.

Diagnostic solutions includes molecular testing platforms and products as well as Precision Medicine and companion diagnostic co-development revenues. This product group experienced growth due to sales of COVID testing solutions including QIAstat-Dx and NeuMoDx that was more than offset by the steep declines experienced earlier in 2020 for QuantiFERON-TB test sales that did see improving trends during the later portion of 2020 but finished the year down 21% compared to 2019.

PCR / Nucleic acid amplification involves research and applied PCR solutions and components and includes the QIAcuity digital PCR platform launched in September 2020. This product group was driven by strong growth across consumables and instruments in 2020 and also saw strong demand for OEM solutions and enzymes used in third-party diagnostic kits for COVID-19 testing.

Genomics / NGS includes universal NGS solutions as well as the full QIAGEN Digital Insights portfolio. This product group faced slower customer demand during the pandemic. Universal NGS sales were supported by initial orders of NGS-based kits used for epidemiological research of positive COVID-19 samples for viral variants during the second half of 2020.

Geographic region (in millions)	2020	2019	% change
Americas	\$ 825.5	\$ 722.0	+14%
Europe, Middle East and Africa	682.3	487.5	+40%
Asia Pacific, Japan and Rest of World	362.6	317.0	+14%
Net Sales	\$ 1,870.3	\$ 1,526.4	+23%

Top 7 emerging markets: Brazil, Russia, India, China, South Korea, Mexico and Turkey (2020: \$287 million, 2019: \$250 million, +14%)

EMEA led the geographic regions with 40% sales growth in 2020 due to strong performance in countries including France, the United Kingdom, Italy and Germany. EMEA was supported by one percentage point of sales growth from positive currency movements in 2020. Asia Pacific, Japan and Rest of World experienced gains during 2020 in China in part from strong QIAstat-Dx instrument sales as well as overall gains in other countries including Japan and Australia that more than offset a decline in South Korea particularly in QuantiFERON-TB tests. The Americas region benefited from significant increased demand in Brazil and Mexico throughout the year and gains in the United States in other areas of the portfolio more than offset the decline in QuantiFERON-TB tests for the full-year.

Gross Profit

(in millions)	2020	2019	% change
Gross Profit	\$ 1,232.7	\$ 1,005.3	+23%
Gross Margin	65.9 %	65.9 %	

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 changes in gross margin between periods. Gross profit in 2020 includes the shift in product mix where lower margin instrument products advanced at a faster pace than consumable products as well as higher material costs. These adverse impacts were offset by lower amortization expenses related to developed technology and patent and license rights, which have been acquired in business combinations or asset acquisitions. The amortization expense on acquisition-related intangibles within cost of sales decreased to \$63.2 million in 2020 from \$71.5 million in 2019. The decrease follows the full amortization of assets previously acquired in 2007. We expect that our acquisition-related intangible amortization will increase as a result of the acquisition of NeuMoDx as further discussed in Note 5 "Acquisitions and Divestitures" and in the event of future acquisitions.

Operating Expenses

(in millions)	2020		2019		% change
	Expenses	% of net sales	Expenses	% of net sales	
Research and development	\$ 149.1	8.0%	\$ 157.4	10.3%	-5%
Sales and marketing	413.7	22.1%	391.9	25.7%	+6%
General and administrative	111.7	6.0%	112.3	7.4%	-1%
Acquisition-related intangible amortization	20.8	1.1%	30.0	2.0%	-31%
Restructuring, acquisition, integration and other, net	150.0	8.0%	199.8	13.1%	-25%
Long-lived asset impairments	1.0	0.1%	140.0	9.2%	-99%
Total operating expenses	\$ 846.3	45.2%	\$ 1,031.4	67.6%	
Income (loss) from operations	\$ 386.4	20.7%	\$ (26.1)	(1.7)%	

2020 results include the expenses from the discontinued tender offer while 2019 includes expense related to the decision to stop NGS instrument development and targeted efficiency improvement initiatives.

Research and Development

The overall decrease is the result of the suspended development of NGS-related instrument systems in connection with the 2019 restructuring measures discussed in Note 6 "Restructuring". In 2020, additional costs include costs associated with QIAstat menu expansion, the launch of new products including QIAprep& and QIAcuity as well as costs incurred following the acquisition of NeuMoDx. 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 research and development costs in the future. We have a strong commitment to innovation and expect to continue to make investments in our research and development efforts.

Sales and Marketing

Sales and marketing expenses were primarily associated with personnel, commissions, advertising, trade shows, publications, freight and logistics expenses, and other promotional expense. Higher costs in 2020 reflect higher share-based compensation expense as a result of an increase in estimated performance achievement and increases in freight and commissions due to higher sales, partially offset from the lockdowns and limitations resulting from the COVID-19 pandemic, such as restricted travel and postponed trade shows and exhibits. When pandemic lockdowns and restrictions are lifted, we anticipate that absolute sales and marketing costs will increase along with new product introductions and growth in sales of our products.

General and Administrative

The decrease in general and administrative expenses reflects lower share-based compensation following the 2019 restructuring measures partially offset by continued investments in information technology systems, including cyber security, across the organization as well as an increase in the personnel expenses from performance achievements due to sales volume increases.

Acquisition-Related Intangible Amortization

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

During 2020, amortization expense on acquisition-related intangibles within operating expense decreased to \$20.8 million, compared to \$30.0 million in 2019. The decrease follows the full amortization of assets previously acquired in 2007. Our acquisition-related intangible amortization will increase in the event of future acquisitions.

Restructuring, Acquisition, Integration and Other, net

Restructuring, acquisition, integration and other, net expenses totaled \$150.0 million during the year ended December 31, 2020 and includes acquisition expenses related to the unsuccessful acquisition attempt by Thermo Fisher of \$125.5 million, including a \$95.0 million expense reimbursement. Additionally, we incurred net acquisition, integration and other expenses of \$21.2 million, including charges for NeuMoDx as well as the \$11.7 million gain on the value of our interest held on the acquisition date. We also incurred \$3.3 million of charges related to the 2019 Restructuring program as discussed further in Note 6. As we continue the integration of NeuMoDx, we expect to incur additional integration costs in 2021.

During 2019, \$199.8 million of restructuring, acquisition, integration and other, net expenses were incurred including \$163.0 million for the 2019 Restructuring program. Additionally, we incurred net acquisition, integration and other expenses of \$36.8 million, including charges for the 2019 acquisitions as well as a \$7.4 million gain from the reduction in the fair value of contingent consideration.

Long-lived Asset Impairments

In 2020, \$1.0 million impairments to property, plant and equipment were recorded and in 2019, \$140.0 million impairments including both intangible assets and property, plant and equipment were recorded primarily in connection with the 2019 restructuring measures as further discussed in Note 6 "Restructuring and Impairments".

Other Income (Expense)

(in millions)	2020	2019	% change
Interest income	\$ 10.0	\$ 22.1	-55%
Interest expense	(71.3)	(74.2)	-4%
Other income, net	114.3	0.4	
Total other income (expense), net	\$ 53.0	\$ (51.6)	+203%

Interest income includes interest earned on cash, cash equivalents and short-term investments, income related to certain interest rate derivatives as discussed in Note 14 "Derivatives and Hedging" and other components including the interest portion of operating lease transactions. Interest income earned in 2019 included interest on higher cash balances following the issuance of cash convertible notes in November 2018.

Interest expense primarily relates to debt, discussed in Note 16 "Debt" in the accompanying consolidated financial statements. During 2020, the majority of the 2021 Notes were repaid and we issued new zero coupon convertible debt due in 2027.

Other income, net for the year ended December 31, 2020 includes a gain of \$123.3 million for the sale of our investment in ArcherDX, \$5.0 million of income from equity method investees and a total of \$1.6 million in gains related to prior sales of assets. These gains were partially offset by \$9.3 million in unrealized losses recognized for the change in fair market value of all marketable equity securities, \$4.1 million net losses on foreign currency transactions and a \$2.3 million loss from the sale of an equity security investment.

Other income, net was \$0.4 million of income for the year ended December 31, 2019. Other income includes \$7.8 million of upward adjustments resulting from observable price changes for non-marketable investments not accounted for under the equity method, \$2.1 million in income from equity-method investments and a \$0.7 million gain from receipt of shares in settlement of a zero-book value financial instrument held with a third party. This income was partially offset by impairments, including \$4.8 million of impairments in non-marketable investments accounted for under the equity method and net losses on foreign currency of \$5.7 million for the year ended December 31, 2019.

Income Tax Expense (Benefit)

(in millions)	2020	2019	% change
Income (loss) before income taxes	\$ 439.5	\$ (77.8)	+665%
Income tax expense (benefit)	80.3	(36.3)	+321%
Net income (loss)	\$ 359.2	\$ (41.5)	
Effective tax rate	18.3 %	46.7 %	

Our effective tax rates differ from The Netherlands statutory tax rate of 25% due in part to our operating subsidiaries being exposed to effective 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 2020 and 2019, our effective tax rates were 18.3% and 46.7%, respectively. The comparison is impacted by pre-tax book income which was higher in 2020 reflecting higher operating income in the current year due to the significant demand for solutions used in COVID-19 testing. This compares to pre-tax book loss in 2019 which reflects the restructuring charges incurred during the third quarter of 2019. Additionally, we record partial tax exemptions on foreign income primarily derived from operations in Germany, the Netherlands and Singapore. These foreign tax benefits are due to a combination of favorable tax laws, rules, and exemptions in these jurisdictions, including intercompany foreign royalty income in Germany which is statutorily exempt from trade tax. Further, we have intercompany financing arrangements in which the intercompany income is nontaxable or partially exempt. During 2020, we have intercompany financing arrangements through Dubai, and through mid-2019 had arrangements through Luxembourg and Ireland.

See Note 17 "Income Taxes" to the consolidated financial statements for a full reconciliation of the effective tax rate to The Netherlands statutory rate.

In future periods, our effective tax rate may fluctuate from similar or other factors as discussed in "Changes in tax laws or their application could adversely affect our results of operations or financial flexibility" in Item 3 *Risk Factors*.

Year Ended December 31, 2019, Compared to 2018

Refer to Item 5 in our December 31, 2019 Annual Report on Form 20-F for discussion of the year ended December 31, 2019, compared to 2018.

Foreign Currencies

QIAGEN N.V.'s reporting 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. The net loss on foreign currency transactions is included in other income, net, and in 2020, 2019 and 2018 was \$4.1 million, \$5.7 million, and \$12.3 million, respectively.

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 the extent that the derivatives are not covered by collateral agreements with the respective counterparties. 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 including intercompany items. We manage our balance sheet exposure on a group-wide basis using foreign exchange forwards, options and cross-currency swaps.

Interest Rate Derivatives. We use interest rate derivative contracts on certain borrowing transactions to hedge interest rate exposures. We have entered into interest rate swaps in which we agree 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 14 "Derivatives and Hedging" to the accompanying consolidated financial statements.

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 December 31, 2020, we had cash and cash equivalents of \$598.0 million and short-term investments of \$117.2 million. As of December 31, 2019, we had cash and cash equivalents of \$623.6 million, restricted cash of \$5.7 million and short-term investments of \$129.6 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 December 31, 2020, cash and cash equivalents had decreased by \$31.4 million from December 31, 2019, primarily as a result of cash used in investing activities of \$443.3 million and cash used financing activities of \$50.1 million, partially offset by cash

provided by operating activities of \$457.8 million. As of December 31, 2020 and 2019, we had working capital of \$1.05 billion and \$618.9 million, respectively.

Cash Flow Summary

(in millions)	2020	2019
Net cash provided by operating activities	\$ 457.8	\$ 330.8
Net cash used in investing activities	\$ (443.3)	\$ (222.3)
Net cash used in financing activities	\$ (50.1)	\$ (639.1)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	\$ 4.2	\$ 0.8
Net decrease in cash, cash equivalents and restricted cash	\$ (31.4)	\$ (529.7)

Operating Activities. For the years ended December 31, 2020 and 2019, we generated net cash from operating activities of \$457.8 million and \$330.8 million, respectively. While net income was \$359.2 million in 2020, non-cash components in income included \$205.0 million of depreciation and amortization, a gain of \$121.8 million on sales of investments primarily related to the sale of the investment in ArcherDX as discussed in Note 10 "Investments", \$42.3 million of amortization of debt discount and issuance costs and \$40.9 million of share-based compensation expense. Operating cash flows include a net decrease in working capital of \$130.2 million excluding changes in fair value of derivative instruments. The current period change in working capital is primarily due to increased inventories in order to meet the increase in demand and decreased accrued and other current liabilities following cash payments made in connection with the 2019 restructuring measures. 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 \$443.3 million of cash was used in investing activities during 2020, compared to \$222.3 million during 2019. Investing activities during 2020 consisted principally of \$239.6 million in cash paid for acquisitions, net of cash acquired primarily for NeuMoDx, \$171.5 million paid for intangible assets including \$135.9 million of the remaining milestone payments for the digital PCR assets acquired from Formulatrix in 2019, \$132.8 million in cash paid for purchases of property and equipment which includes the investments we are making in expanded production capacity, \$53.4 million paid for collateral assets and \$49.8 million for purchases of short-term investments. This was partially offset by \$181.2 million from the sale of short-term investments and \$25.6 million net proceeds from sales of investments in privately held companies as discussed in Note 10 "Investments".

Cash used in investing activities during 2019 includes \$156.9 million paid for intangible assets primarily related to the asset acquisition from Formulatrix, \$294.0 million for purchases of short-term investments and \$118.0 million purchases of property, plant and equipment partially offset by \$396.1 million from the sale of short-term investments.

Financing Activities. For the year ended December 31, 2020, cash used in financing activities was \$50.1 million compared to cash provided by financing activities of \$639.1 million in 2019. Financing activities during 2020 consisted primarily of net payments of \$468.6 million in connection with the final conversion, redemption and termination of the 2021 Cash Convertible Notes and warrants as discussed further in Note 16 "Debt" as well as \$64.0 million for repurchases of QIAGEN shares. This was partially offset by \$497.6 million in proceeds from issuance of the 2027 Zero Coupon Convertible Notes.

In 2019, cash used in financing activities totaled \$639.1 million primarily due to \$506.4 million repayments of long-term debt and repurchases of QIAGEN shares totaled \$74.5 million in 2019.

Other Factors Affecting Liquidity and Capital Resources

As of December 31, 2020, we carry \$1.9 billion of long-term debt, of which \$42.5 million 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 16 "Debt".

In November 2018, we issued \$500.0 million aggregate principal amount of Cash Convertible Senior Notes which is 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 as described in Note 16 "Debt".

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 December 31, 2020. 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 €27.0 million with no expiration date, none of which were utilized as of December 31, 2020.

In March 2014, we issued Cash Convertible Senior Notes of which \$0.2 million remains outstanding as of December 31, 2020 and will be repaid at maturity on March 19, 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 December 31, 2020: (1) \$300 million 10-year term due in 2022 (3.75%); and (2) \$27 million 12-year term due in 2024 (3.90%).

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 20 "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.

Off-Balance Sheet Arrangements

We did not use special purpose entities and do not have off-balance sheet financing arrangements as of and during the years ended December 31, 2020, 2019 and 2018.

Contractual Obligations

As of December 31, 2020, our future contractual cash obligations are as follows:

Contractual Obligations (in millions)	Payments Due by Period						
	Total	2021	2022	2023	2024	2025	Thereafter
Long-term debt ⁽¹⁾	\$ 1,980.0	\$ 64.7	\$ 505.3	\$ 370.2	\$ 578.9	\$ 0.3	\$ 460.7
Purchase obligations	250.8	199.8	42.6	5.4	3.0	—	—
Operating leases	117.0	25.4	21.0	16.3	10.8	6.7	36.9
License and royalty payments	30.0	10.0	7.2	4.5	2.6	2.3	3.4
Total contractual cash obligations	\$ 2,377.9	\$ 299.9	\$ 576.1	\$ 396.3	\$ 595.3	\$ 9.3	\$ 501.0

⁽¹⁾ Amounts include required principal, stated at the current carrying values, and interest payments.

In addition to the above, and 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 millions)		
2021		\$ 8.9
2022		17.7
		<u>\$ 26.6</u>

Of the \$26.6 million total contingent obligation, we have assessed the fair value at December 31, 2020 to be \$23.6 million which is included in accrued and other current liabilities in the accompanying consolidated balance sheet.

Liabilities associated with uncertain tax positions, including interest and penalties, are currently estimated at \$104.9 million as of December 31, 2020 and are not included in the table above, as we cannot reasonably estimate when, if ever, an amount would be paid to a government agency. Ultimate settlement of these liabilities is dependent on factors outside of our control, such as examinations by each agency and expiration of statutes of limitation for assessment of additional taxes.

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, 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 to 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 it is reasonably likely that changes in the accounting estimate may occur from period to period that would have a material impact on the presentation of our results of operations, financial position or cash flows. Our critical accounting policies are those related to revenue recognition, income taxes, investments, goodwill and other intangible assets, acquisitions and fair value measurements. We reviewed the development, selection, and disclosure of our critical accounting policies and estimates with the Audit Committee of our Supervisory Board.

Revenue Recognition. We recognize revenue when control of promised goods or services is transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. Identifying performance obligations in a contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation requires management's judgments and estimates. Sales arrangements which require a measure of progress toward completion by measuring actual hours incurred to date as a proportion of the total budgeted hours of the project also involves management's judgments and estimates. While the majority of our sales agreements contain standard terms and conditions, we do enter into agreements that contain multiple products or services or non-standard terms and conditions. Sometimes it is difficult to determine whether there is more than one performance obligation under a sales agreement and if so, how and when revenue should be recognized is subject to certain estimates or assumptions. Should our judgments and estimates not be correct, revenue recognized for any reporting period could be adversely affected.

Income Taxes. Calculation of our tax provision is complex due to our international operations and the multiple taxing jurisdictions in which we operate. Some of our deferred tax assets relate to net operating losses (NOL). The utilization of NOLs is not assured and is dependent on generating sufficient taxable income in the future. Although management believes it is more likely than not that we will generate sufficient taxable income to utilize substantially all NOL carryforwards, evaluating the NOLs related to our newer subsidiaries requires us to make estimates that we believe are reasonable, but may also be highly uncertain given that we do not have direct experience with these subsidiaries or their products. Thus, the estimates may be subject to significant changes from period to period as we gain that experience. To the extent that our estimates of future taxable income are insufficient to utilize all available NOLs, a valuation allowance will be recorded in the provision for income taxes in the period the determination is made, and the deferred tax assets will be reduced by this amount, which could be material. In the event that actual circumstances differ from management's estimates, or to the extent that these estimates are adjusted in the future, any changes to the valuation allowance could materially impact our financial position and results of operations.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax laws and regulations in many jurisdictions across our global operations. ASC 740 states that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes on the basis of technical merits. We record unrecognized tax positions in accordance with ASC 740 and adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available. Because of the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from our current estimate of the unrecognized tax liabilities. These differences will be reflected as increases or decreases to income tax expense in the period in which the new information is available.

Investments. Generally accepted accounting principles require different methods of accounting for an investment depending on the level of influence that we exert. Assessing the level of influence involves subjective judgments. If management's assumptions with respect to its level of influence differ in future periods and we therefore have to account for these investments under a method other than the cost method, it could have a material impact to our financial statements.

We have equity investments accounted for under the measurement alternative as these equity securities do not have readily determinable fair values and are not accounted for under the equity method. This measurement alternative requires these investments to be 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. At each reporting date, we review each investment for impairment, considering factors such as book values from the most recent financial statements, and forecasts and expectations of the investee, and also for any observable price changes from stock transactions of the issuer. If an impairment is determined to have occurred, estimation of the fair value of these nonmarketable equity investments is inherently subjective. Therefore, in the case of an impairment or an observable price change occurs, it could require a write-down or write-up of the investment that could materially impact our financial position and results of operations.

Additionally, we have made strategic investments in certain companies as more fully described in Note 10 "Investments" to the Consolidated Financial Statements, some of which are variable interest entities. FASB ASC Topic 810 requires a company to consolidate a variable interest entity in which it holds a variable interest if it is designated as the primary beneficiary of that entity even if the company does not have a majority of voting interests. A variable interest entity is generally defined as an entity with insufficient equity to finance its activities or where the owners of the entity lack the risk and rewards of ownership. Assessing the requirements of ASC Topic 810 involves subjective judgments. If management's assumptions with respect to the criteria differ in future periods, and we therefore have to account for these investments under a different method, it could have a material impact on our financial statements.

Goodwill and Other Intangible Assets. We assess goodwill and other intangible assets for impairment at least annually in the absence of an indicator of possible impairment and immediately upon an indicator of possible impairment. Intangibles are assessed for recoverability considering the contract life, where applicable, and the period of time over which the intangible will contribute to future cash flow. The unamortized cost of intangible assets, where cash flows are independent and identifiable from other assets, is evaluated periodically and adjusted, if necessary, if events and circumstances indicate that a decline in value below the carrying amount has occurred. Goodwill is subject to impairment tests annually or earlier if indicators of potential impairment exist, using a fair-value-based approach. We have elected to perform our annual test for indications of impairment as of October 1st of each year. Goodwill is deemed to be impaired if we determine that the carrying value of our reporting unit is more than the fair value. Due to the numerous variables associated with our judgments and assumptions and the effects of changes in circumstances affecting the valuation, both the precision and reliability of the resulting estimates are subject to uncertainty. As additional information becomes known, we may change our estimates.

Acquisitions. We frequently enter into business combinations and must determine whether an acquired entity is considered to be a business or an asset or group of assets under ASU 2017-01, *Business Combinations: Clarifying the Definition of a Business*. A portion of the purchase price can only be allocated to goodwill in a business combination and transaction costs are expensed in a business combination yet capitalized in an asset acquisition. Contingent payments and in-process research and development costs are also handled differently. A set of assets is not a business if substantially all of the fair value of the acquired gross assets is concentrated in a single asset or group of similar identifiable assets. In determining whether an acquired entity is considered to be a business or a set of assets, application of the "substantially all" threshold requires judgment.

The purchase price allocation for acquisitions of a business requires extensive use of accounting estimates and judgments to allocate the purchase price to the identifiable tangible and intangible assets acquired, including in-process research and development, and liabilities assumed based on their respective fair values. An acquisition may include contingent consideration as part of the purchase price. Contingent consideration is accounted for at fair value at the acquisition date with subsequent changes to the fair value being recognized in earnings.

We have made several acquisitions of businesses in recent years. The purchase prices for the acquisitions were allocated to tangible and intangible assets acquired and liabilities assumed based on their estimated fair values at the acquisition dates. We engaged an independent third-party valuation firm to assist us in determining the estimated fair values of acquired in-process research and development and identifiable intangible assets. Such a valuation requires significant estimates and assumptions, including but not limited to determining the timing and estimated costs to complete the in-process projects, projecting regulatory approvals, estimating projected revenue and related growth rates, estimating future cash flows, estimating customer attrition rates and developing appropriate discount rates. We believe the estimated fair values of contingent consideration and assets acquired and liabilities assumed are based on reasonable assumptions. However, the fair value estimates for the purchase price allocations may change during the allowable allocation period, which is up to one year from the acquisition dates, if additional information becomes available.

Fair Value Measurements. We have categorized our assets and liabilities that are measured at fair value, based on the priority of the inputs to the valuation techniques, in a three-level fair value hierarchy: Level 1 - using quoted prices in active markets for identical assets or liabilities; Level 2 - using observable inputs other than quoted prices; and Level 3 – using unobservable inputs. We primarily apply the market approach for recurring fair value measurements, maximize our use of observable inputs and minimize our use of unobservable inputs. We utilize the mid-point price between bid and ask prices for valuing the majority of our assets and liabilities measured and reported at fair value. In addition to using market data, we make assumptions in valuing assets and liabilities, including assumptions about risk and the risks inherent in the inputs to the valuation technique.

Certain of our derivative instruments, which are classified in Level 2 of the fair value hierarchy, are valued using industry-standard models that consider various inputs, including time value, volatility factors, and current market and contractual prices for the underlying instruments, as well as other relevant economic measures. Substantially all of these inputs are observable in the marketplace throughout the full term of the instrument, can be derived from observable data or are supported by observable prices at which transactions are executed in the marketplace.

Certain of our acquisitions involve contingent consideration, the payment of which is contingent on the occurrence of future events. Contingent consideration is classified in Level 3 of the fair value hierarchy and is initially recognized at fair value as a cost of the acquisition. After the acquisition, the contingent consideration liability is remeasured each reporting period. The fair value of contingent consideration is measured predominantly on unobservable inputs such as assumptions about the likelihood of achieving specified milestone criteria, projections of future financial performance, assumed discount rates and assumed weightings applied to potential scenarios in deriving a probability weighted fair value. Significant judgment is used in developing these estimates and assumptions both at the acquisition date and in subsequent periods. If actual events differ from management's estimates, or to the extent these estimates are adjusted in the future, our financial condition or results of operations could be affected in the period of any change.

Additionally, 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.

For other fair value measurements, we generally use an income approach to measure fair value when there is not a market observable price for an identical or similar asset or liability. This approach utilizes management's best assumptions regarding expectations of projected cash flows, and discounts the expected cash flows using a commensurate risk-adjusted discount rate.

The above listing is not intended to be a comprehensive list of all our accounting policies. In many cases, the accounting treatment of a particular transaction is specifically dictated by generally accepted accounting principles in the United States, with limited or no need for management's judgment. There are also areas in which management's judgment in selecting available alternatives may or may not produce a materially different result. See our audited consolidated financial statements and notes thereto in Item 18 of this Annual Report, containing a description of accounting policies and other disclosures required by generally accepted accounting principles in the United States.

Recent Authoritative Pronouncements

For information on recent accounting pronouncements impacting our business see Note 2 "Effects of New Accounting Pronouncements" of the Notes to Consolidated Financial Statements included in Item 18.

Item 6. Directors, Senior Management and Employees

Managing Directors and Supervisory Directors are appointed annually for the period beginning on the date following the Annual General Meeting of our shareholders up to and including the date of the Annual General Meeting held in the following year.

Our Supervisory Directors and Managing Directors for the year ended December 31, 2020 and their ages as of January 31, 2021, are as follows:

Managing Directors:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Thierry Bernard	56	Managing Director, Chief Executive Officer
Roland Sackers	52	Managing Director, Chief Financial Officer

Supervisory Directors:

<u>Name</u> ⁽¹⁾	<u>Age</u>	<u>Position</u>
Stéphane Bancel	48	Supervisory Director, Member of the Audit Committee
Dr. Metin Colpan	66	Supervisory Director, Chair of the Science and Technology Committee and Member of the Selection and Appointment Committee
Dr. Ross L. Levine	49	Supervisory Director and Member of the Science and Technology Committee
Dr. Elaine Mardis	58	Supervisory Director, Member of the Science and Technology Committee and Member of the Compensation Committee
Lawrence A. Rosen	63	Chair of the Supervisory Board, Chair of the Audit Committee, Chair of the Selection and Appointment Committee and Member of the Compensation Committee
Elizabeth E. Tallett	71	Supervisory Director, Chair of the Compensation Committee, Member of the Audit Committee and Member of the Selection and Appointment Committee

⁽¹⁾ Dr. Håkan Björklund stepped down from his roles as Chair of the Supervisory Board, Member of the Compensation Committee and Selection and Appointment Committee effective August 21, 2020.

The following is a brief summary of the background of each of the Supervisory Directors and Managing Directors. References to “QIAGEN” and the “Company” in relation to periods prior to April 29, 1996 mean QIAGEN GmbH and its consolidated subsidiaries:

Managing Directors and Chief Executive Officer

Thierry Bernard, 56, joined QIAGEN in February 2015 to lead QIAGEN’s growing presence in Molecular Diagnostics, the application of Sample to Insight solutions for molecular testing in human healthcare. He was named Chief Executive Officer in March 2020, after having previously served in this role on an interim basis. In June 2020, he became a member of the Managing Board. Mr. Bernard previously worked at bioMérieux, where he served in roles of increasing responsibility for 15 years, most recently as Corporate Vice President, Global Commercial Operations, Investor Relations and the Greater China Region. Prior to joining bioMérieux, he served in management roles in multiple international environments. Mr. Bernard is a current member of the boards of directors of First Light Biosciences, Inc., Huttoria SA and T2 Biosystems, Inc. He is a former member of the board of HepatoChem and Daktari Diagnostics, where he also served as CEO. He has earned degrees from Sciences Po (Paris), Harvard Business School, London School of Economics and the College of Europe and is a member of French Foreign Trade Advisors.

Roland Sackers, 52, joined QIAGEN in 1999 as Vice President Finance and has been Chief Financial Officer since 2004. In 2006, Mr. Sackers became a member of the Managing Board. Between 1995 and 1999, he served as an auditor with Arthur Andersen Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft. Mr. Sackers earned his Diplom-Kaufmann from University of Münster, Germany. In 2019, he joined the supervisory board of Evotec SE and is chairman of the audit committee. He is a former member of the supervisory board and audit committee of IBS AG and a former member of the board of directors of Operon Biotechnologies, Inc. Mr. Sackers is a board member of the industry association BIO Deutschland. He was previously a non-executive director and chair of the audit committee from 2011 to 2018 of Immunodiagnostic Systems Holding PLC (IDS), a leading producer of immunological tests for research and diagnostic applications publicly listed in the United Kingdom.

Supervisory Directors

Stéphane Bancel, 48, joined the Supervisory Board in 2013 and has been a member of the Audit Committee since 2014. He was a member of the Compensation Committee from 2013 through July 2020 and a member of the Science and Technology Committee from 2014 through July 2020. He is Chief Executive Officer of Moderna, Inc., a clinical-stage biotechnology company based in Cambridge, Massachusetts, which is advancing 24 drug development programs involving messenger RNA therapeutics. Before joining Moderna, Mr. Bancel served for five years as Chief Executive Officer of the French diagnostics company bioMérieux SA. Prior to bioMérieux, he was Managing Director of Eli Lilly in Belgium and Executive Director of Global Manufacturing Strategy and Supply Chain at Eli Lilly in Indianapolis, Indiana, after having started at Lilly in Great Britain. Before joining Eli Lilly, Mr. Bancel served as Asia-Pacific Sales and Marketing Director for bioMérieux while based in Tokyo, Japan. He holds a Master of Engineering degree from École Centrale Paris (ECP), a Master of Science in Chemical Engineering from the University of Minnesota and an M.B.A. from Harvard Business School.

Dr. Håkan Björklund, 64, joined the Supervisory Board Member in March 2017 and was Chair of the Supervisory Board from June 2018 until he stepped down in August 2020.

Dr. Metin Colpan, 66, is a co-founder of QIAGEN and was the Chief Executive Officer and a Managing Director from 1985 through 2003. Dr. Colpan has been a member of the Supervisory Board since 2004 and has served as Chair of the Science and Technology Committee since 2014. He has been a member of the Selection and Appointment Committee since 2015. Dr. Colpan obtained his Ph.D. and M.S. in Organic Chemistry and Chemical Engineering from the Darmstadt Institute of Technology in 1983. Prior to founding QIAGEN, Dr. Colpan was an Assistant Investigator at the Institute for Biophysics at the University of Düsseldorf. Dr. Colpan has had wide experience in separation techniques and in the separation and purification of nucleic acids in particular, and has filed many patents in the field. Dr. Colpan also serves as a Supervisory Board member of CGR GmbH in Mettmann, Germany and Heilpflanzenwohl AG in Baar, Germany. Dr. Colpan previously served as a Supervisory Board member of Ingenium Pharmaceuticals AG, GenPat77 Pharmacogenetics AG, GPC Biotech AG and Morphosys AG, each in Munich, Germany and Qalovis Farmer Automatic Energy GmbH, in Laer, Germany.

Dr. Ross L. Levine, 49, joined the Supervisory Board and its Science and Technology Committee in 2016. He is a physician-scientist focused on researching and treating blood and bone marrow cancers as the Laurence Joseph Dineen Chair in Leukemia Research, the Chief of Molecular Cancer Medicine, and an Attending Physician at Memorial Sloan Kettering Cancer Center, as well as Professor of Medicine at Weill Cornell Medical College. He leads a research lab investigating genetics and targeted therapies in myeloid malignancies and is interested in application of next-generation sequencing technology in the practice of medicine in hematologic cancers. He trained in internal medicine at Massachusetts General Hospital and in hematology-oncology at the Dana-Farber Cancer Institute, earning board certification in these specialties. He received his M.D. from the Johns Hopkins University School of Medicine and his A.B. degree from Harvard College.

Dr. Elaine Mardis, 58, joined the Supervisory Board in 2014. She is also a member of the Science and Technology Committee and the Compensation Committee. Dr. Mardis is the Co-Executive Director of the Institute for Genomic Medicine at Nationwide Children's Hospital in Columbus, OH. She also is Professor of Pediatrics at the Ohio State University College of Medicine. Dr. Mardis has research interests in the application of genomic technologies to improve our understanding of human disease, and toward improving the precision of medical diagnosis, prognosis and treatment. Dr. Mardis is the former Robert E. and Louise F. Dunn Distinguished Professor of Medicine at Washington University School of Medicine in St. Louis, MO, where she was on the faculty for 22 years. As Co-Director of the McDonnell Genome Institute, she devised methods and automation that contributed to the Human Genome Project and has since played key roles in the 1000 Genomes Project, The Cancer Genome Atlas, and the Pediatric Cancer Genome Project. Prior to joining the Washington University faculty, she was a senior research scientist at BioRad Laboratories in Hercules, CA. Dr. Mardis is the immediate past President of the American Association for Cancer Research, and has scientific advisory roles at Kiadis Pharmaceuticals N.V., PACT Pharma LLC, and Scorpion Therapeutics LLC. Dr. Mardis received her Bachelor of Science degree in Zoology in 1984 and her Ph.D. in Chemistry and Biochemistry in 1989, both from the University of Oklahoma. She is an elected member of the U.S. National Academy of Medicine.

Lawrence A. Rosen, 63, joined the Supervisory Board in 2013 and was appointed Chair in 2020. He is also Chair of the Audit Committee and Chair of the Selection and Appointment Committee, in addition to being a member of the Compensation Committee. Mr. Rosen was a member of the Board of Management and Chief Financial Officer of Deutsche Post DHL until September 2016. Holding this position since 2009, Mr. Rosen was in charge of controlling, corporate accounting and reporting, investor relations, corporate finance, corporate internal audit and security, taxes, as well as the group's global business services. Prior to joining Deutsche Post DHL, Mr. Rosen served as Chief Financial Officer of Fresenius Medical Care AG & Co. KGaA in Germany from 2003 to 2009. Prior to that, he was Senior Vice President and Treasurer for Aventis SA in Strasbourg, France. Between 1984 and 2000, Mr. Rosen held different positions at the Aventis predecessor companies Hoechst AG and American Hoechst/Hoechst Celanese Inc. Since 2015, Mr. Rosen has served as a member of the board of Lanxess AG and previously served on the board of Postbank AG from 2009 until 2015. Mr. Rosen, who is a U.S. citizen, holds a Bachelor's degree in Economics from the State University of New York and an M.B.A. from the University of Michigan.

Elizabeth E. Tallett, 71, joined the Supervisory Board, as well as the Audit Committee and Compensation Committee, in 2011. She is a member of the Selection and Appointment Committee, and since 2016 has served as Chair of the Compensation Committee. Ms. Tallett was a Principal of Hunter Partners, LLC, a management company for early to mid-stage pharmaceutical, biotechnology and medical device companies, from 2002 until February 2015. Ms. Tallett continues to consult with early stage health care companies. Her senior management experience includes President and CEO of Transcell Technologies Inc., President of Centocor Pharmaceuticals, member of the Parke-Davis Executive Committee, and Director of Worldwide Strategic Planning for Warner-Lambert Company. Ms. Tallett graduated from Nottingham University, England with dual Bachelor's degrees with honors in mathematics and economics. She is a member of the board of directors of Anthem, Inc. (where she is currently Chair), Principal Financial Group, Inc. (where she is retiring from in May 2021), Meredith Corp. and Moderna, Inc. She is a former director of Coventry Health Care, Inc. Ms. Tallett was a founding board member of the Biotechnology Council of New Jersey and is Chair of the Trustees of Solebury School in Pennsylvania.

Dr. Toralf Haag, 54, joined the Supervisory Board and the Audit Committee in January 2021. He has served since October 2018 as Chairman of the Corporate Board of Management of Voith GmbH & Co. KGaA in Germany, a global technology company with more than EUR 4 billion in annual sales and over 19,000 employees. Before joining Voith in October 2016 as Chief Financial Officer, Dr. Haag served for more than 11 years as CFO and Member of the Executive Committee of Lonza

Group AG since August 2005. He began his career in 1994 as the personal assistant to the CEO of Thyssen Handelsunion AG after earning a degree in Business Administration from the University of Augsburg and a Ph.D. at the University of Kiel.

Compensation of Managing Board Members and Supervisory Directors

Managing Board Remuneration policy

The objective of the Remuneration Policy for the Managing Board is to ensure a fair compensation in line with market conditions for the most talented, qualified leaders. This enables us to achieve our strategic initiatives and operational excellence. The Remuneration Policy aligns remuneration to reward individual performance as well as the overall performance of QIAGEN, and to foster sustainable growth and value creation.

The Remuneration Policy and overall remuneration levels are benchmarked regularly against a selected group of companies in key markets in which QIAGEN operates to ensure overall competitiveness. We participate in various compensation benchmarking surveys in which companies provide information on the level, as well as the structure, of compensation awarded for a broad range of positions around the world.

Remuneration of Managing Board members consists of a combination of base salary, short-term variable cash award and elements of long-term incentives. In addition, the members of the Managing Board can receive pension arrangements and other benefits in line with market practices. The total target remuneration package of the Managing Board members is appropriately set with consideration of a variety of factors that include external benchmarks and the individual's experience as well as the complexity of the position, scope and areas of responsibilities. This applies for all compensation components, both individually and in total.

The structure of the remuneration package for the Managing Board members is designed to balance incentives for short-term operational performance with incentives for long-term sustainable value creation while considering the interests of shareholders and other stakeholders. This means that a significant portion of total remuneration consists of variable awards, which can differ substantially from year to year and depend on the achievement of corporate goals as well as individual performance.

The Remuneration Policy for the Managing Board is generally aligned and consistent with the framework for remuneration of other senior managers of QIAGEN.

The current Remuneration Policy for the Managing Board was adopted by the General Meeting of Shareholder in 2014. A revised Remuneration Policy which considers changes to market trends, best practices and benchmarks, and an increased level of disclosure in line with best practices will be on the agenda for the General Meeting of Shareholders in 2021.

Managing Board compensation

The compensation granted to the members of the Managing Board in 2020 consisted of a fixed salary and variable components, with the significant majority of compensation awarded in the form of QIAGEN stock units that are restricted for a long multi-year period to align management with the interests of shareholders and other stakeholders. Variable compensation included long-term equity incentives that were awarded based on individual performance as well as equity awards in lieu of the value of the annual cash bonus.

The Remuneration Policy provides that annual regular equity-based compensation grants to members of the Managing Board will primarily consist of performance stock units. Grants of stock options and restricted stock units which are based on time vesting only shall no longer be granted on a regular basis and shall be reserved for use as special equity incentive rewards in certain situations.

Stock options, if granted, to the Managing Board members must have an exercise price that is higher than the market price at the time of grant. Restricted Stock Units granted to the Managing Board members, vest over a 10-year period. Performance Stock Units are subject to long-term vesting periods and contingent upon the achievement of several financial goals over a multi-year period.

In 2018, a grant of Performance Stock Units with mandatory minimum holding levels of QIAGEN shares was made under the Commitment Program linked to achievement of a three-year plan covering 2019 and 2021 including quantitative goals for net sales, earnings before interest and taxes (EBIT), QIAGEN Value Added (QVA), a steering metric that measures the ability of QIAGEN to generate returns and exceed its cost of capital and share price development as compared to peer companies. Under the Commitment Program, the financial targets for vesting are based on three-year goals as defined within QIAGEN's five-year business plan covering the period from 2019 until the end of 2023. The targets for vesting were set and approved by the Supervisory Board.

For the year ended December 31, 2020, the Managing Board members received the following compensation:

Managing Board Member	Annual Compensation				Long-Term Compensation	
	Fixed Salary	Variable Cash Bonus	Other ⁽¹⁾	Total	Benefit Plans	Stock Units Granted
Thierry Bernard	\$ 900,000	1,492,000	18,000	\$ 2,410,000	\$ 90,000	140,000
Roland Sackers	\$ 570,500	366,000	41,000	\$ 977,500	\$ 77,500	120,000

⁽¹⁾ Amounts include, among others, car lease and reimbursed personal expenses such as tax consulting. We also occasionally reimburse our Managing Directors' personal expenses related to attending out-of-town meetings but not directly related to their attendance. Amounts do not include the reimbursement of certain expenses relating to travel incurred at the request of QIAGEN, other reimbursements or payments that in total did not exceed \$10,000 or tax amounts paid by the Company to tax authorities in order to avoid double-taxation under multi-tax jurisdiction employment agreements.

Supervisory Board Remuneration Policy

At the Annual General Meeting of Shareholders in 2020, a Remuneration Policy for the Supervisory Board was adopted. The objective of the Remuneration Policy is to attract, retain, and motivate high-qualified Supervisory Board members, taking into account the Company's identity, mission, values, strategic initiatives and value creation. It focuses on achieving a total remuneration level, both short-term and long term, which is comparable with levels provided by other European and United States-based companies.

Supervisory Board compensation

The Supervisory Board remuneration is aligned to the applicable market standards, considering peer companies of similar size and complexity in similar industries, including biotechnology, life science supplies, diagnostics and pharmaceuticals, to reflect our nexus to the European Markets as a Dutch company as well as our U.S. focus as a NYSE listed company subject to U.S. regulations and the fact that several of the Supervisory Board members are residing in the United States.

The Supervisory Board compensation for 2020 consists of fixed retainer compensation and additional retainer amounts for Chair and Vice Chair. Annual remuneration of the Supervisory Board members is as follows:

Fee payable to the Chair of the Supervisory Board	\$ 150,000
Fee payable to each member of the Supervisory Board	\$ 57,500
Additional compensation payable to members holding the following positions:	
Chair of the Audit Committee	\$ 25,000
Chair of the Compensation Committee	\$ 18,000
Chair of the Selection and Appointment Committee and other board committees	\$ 12,000
Fee payable to each member of the Audit Committee	\$ 15,000
Fee payable to each member of the Compensation Committee	\$ 11,000
Fee payable to each member of the Selection and Appointment Committee and other board committees	\$ 6,000

Further, the Supervisory Board members will be reimbursed for tax consulting costs incurred in connection with the preparation of their tax returns up to an amount of €5,000 per person per fiscal year.

Supervisory board members also receive a variable component, in the form of share-based compensation. We did not pay any agency or advisory service fees to members of the Supervisory Board.

For the year ended December 31, 2020, the Supervisory Board members received the following compensation:

Supervisory Board Member	Fixed Remuneration	Committee Chair	Committee Membership	Total ⁽¹⁾	Restricted Stock Units
Stéphane Bancel	\$ 57,500	—	23,500	\$ 81,000	9,426
Dr. Håkan Björklund ⁽²⁾	\$ 100,000	8,000	7,300	\$ 115,300	9,426
Dr. Metin Colpan	\$ 57,500	12,000	6,000	\$ 75,500	9,426
Dr. Ross L. Levine	\$ 57,500	—	6,000	\$ 63,500	9,426
Dr. Elaine Mardis	\$ 57,500	—	9,700	\$ 67,200	9,426
Lawrence A. Rosen	\$ 88,300	29,000	5,500	\$ 122,800	9,426
Elizabeth E. Tallett	\$ 57,500	18,000	21,000	\$ 96,500	9,426

⁽¹⁾ Supervisory Directors are reimbursed for travel costs and for any value-added tax to be paid on their remuneration. These reimbursements are excluded from the amounts presented herein.

⁽²⁾ Dr. Håkan Björklund stepped down from his roles as Chair of the Supervisory Board, Member of the Compensation Committee and Selection and Appointment Committee effective August 21, 2020.

Committees of the Supervisory Board

The Supervisory Board has established an Audit Committee, a Compensation Committee, a Selection and Appointment Committee and a Science and Technology Committee from among its members and can establish other committees as deemed beneficial. The Supervisory Board has approved charters under which each of the committees operates. These charters are published on our website www.qiagen.com. The committees were comprised of the following members in 2020:

Name of Supervisory Director	Member of Audit Committee	Member of Compensation Committee	Member of Selection and Appointment Committee	Member of Science and Technology Committee
Stéphane Bancel	•			
Dr. Metin Colpan			•	• (Chair)
Dr. Ross L. Levine				•
Dr. Elaine Mardis		•		•
Lawrence A. Rosen	• (Chair)	•	• (Chair)	
Elizabeth E. Tallett	•	• (Chair)	•	

We believe that all of our Supervisory Directors meet the independence requirements set forth in the Dutch Corporate Governance Code (the Dutch Code). We further believe that all Supervisory Board Directors qualify as independent under the independence standards set forth in the New York Stock Exchange (NYSE) Listed Company Manual. Pursuant to the NYSE rules, a majority of the Supervisory Directors must qualify as independent, as defined in the Rules.

Audit Committee

The Audit Committee consists of three members and meets at least quarterly. The Audit Committee members are appointed by the Supervisory Board and serve for a term of one year. We believe that all members of our Audit Committee meet the independence requirements as set forth in Rule 10A-3 of the Securities Exchange Act of 1934, as amended, and the New York Stock Exchange Listed Company Manual. The Board has designated Mr. Rosen as an “audit committee financial expert” as that term is defined in the United States Securities and Exchange Commission rules adopted pursuant to the Sarbanes-Oxley Act of 2002 and as referred to in the Dutch Decree on Audit Committees (*Besluit instelling audit committee*). The Audit Committee performs a self-evaluation of its activities on an annual basis.

The Audit Committee's primary duties and responsibilities include, among other things, to serve as an independent and objective party to monitor QIAGEN's accounting and financial reporting process and internal risk management, control and compliance systems. The Audit Committee also is directly responsible for proposing the external auditor to the Supervisory Board, which then proposes the appointment of the external auditor to the General Meeting. Further, the Audit Committee is responsible for the compensation and oversight of QIAGEN's external auditor and for providing an open avenue of communication among the external auditor as well as the Management Board and the Supervisory Board. Our Internal Audit department operates under the direct responsibility of the Audit Committee. Further, the Audit Committee is responsible to establish procedures to allow for the confidential and or anonymous submission by employees of concerns. Additionally, this includes the receipt, retention and treatment of submissions received regarding accounting, internal accounting controls, or auditing matters. The Audit Committee discusses our financial accounting and reporting principles and policies and the adequacy of our internal accounting, financial and operating controls and procedures with the external auditor and management; considers and approves any recommendations regarding changes to our accounting policies and processes; reviews with management and the external auditor our quarterly earnings reports prior to their release to the press; and reviews the quarterly and annual reports (reported on Forms 6-K and 20-F) to be furnished to or filed with the Securities and Exchange Commission and the Deutsche Boerse. The Audit Committee met seven times in 2020 and met with the external auditor excluding members of the Managing Board in July and October 2020. The Audit Committee reviews major financial risk exposures, pre-approves related-party transactions between the Company and Supervisory Board or Managing Board, and reviews any legal matter including compliance topics that could have a significant impact on the financial statements.

Compensation Committee

The Compensation Committee's primary duties and responsibilities include, among other things, the preparation of a proposal for the Supervisory Board concerning the Remuneration Policy for the Managing Board to be adopted by the General Meeting, the preparation of a proposal concerning the individual compensation of Managing Board members to be adopted by the Supervisory Board and the preparation of the Remuneration Report on compensation policies for the Managing Board to be adopted by the Supervisory Board. The Compensation Committee reviews and approves all equity-based compensation, reviews and approves the annual salaries, bonuses and other benefits of executive officers, and reviews general policies relating to employee compensation and benefits. The Remuneration Report reviews the implementation of the Remuneration Policy in the most recent year and provides an outline of the Remuneration Policy for the future. The Compensation Committee engages external consultants to ensure that the overall remuneration levels are benchmarked regularly, against a selected group of companies and key markets in which QIAGEN operates. The Compensation Committee consists of three members and members are appointed by the Supervisory Board and serve for a term of one year. The Compensation Committee met five times in 2020.

Selection and Appointment Committee

The Selection and Appointment (Nomination) Committee is primarily responsible for the preparation of selection criteria and appointment procedures for members of the Supervisory Board and Managing Board as well as the periodic evaluation of the scope and composition of the Managing Board and the Supervisory Board, including the profile of the Supervisory Board. Additionally, the Selection and Appointment Committee periodically evaluates the functioning of individual members of the Managing Board and Supervisory Board, reporting these results to our Supervisory Board. It also proposes the (re-)appointments of members of our Managing Board and Supervisory Board and supervises the policy of our Managing Board in relation to selection and appointment criteria for senior management. Members of the Selection and Appointment Committee are appointed by the Supervisory Board and serve for a one-year term. Following the departure of Dr. Björklund, the Supervisory Board discussed the composition of the Supervisory Board during Supervisory Board meetings and teleconferences. The Selection and Appointment committee met five times in 2020.

Science and Technology Committee

The Science and Technology Committee is primarily responsible for reviewing and monitoring research and development projects, programs, budgets, infrastructure management and overseeing the management risks related to the Company's portfolio and information technology platforms. The Science and Technology Committee provides understanding, clarification and validation of the fundamental technical basis of the Company's businesses in order to enable the Supervisory Board to make informed, strategic business decisions and vote on related matters, and to guide the Managing Board to ensure that powerful, global, world-class science is developed, practiced and leveraged throughout the Company to create shareholder value. The members of the Science and Technology Committee are appointed by the Supervisory Board and serve for a term of one year. The Science and Technology Committee met four times in 2020.

Share Ownership

The following table sets forth certain information as of January 31, 2021 concerning the ownership of Common Shares by our directors and officers. In preparing the following table, we have relied on information furnished by such persons.

Name and Country of Residence	Shares Beneficially Owned⁽¹⁾	
	Number⁽²⁾	Percent Ownership
Thierry Bernard, United States	50,343 (3)	*
Roland Sackers, Germany	170,000 (4)	*
Stéphane Bancel, United States	15,926 (5)	*
Dr. Metin Colpan, Germany	1,172,698 (6)	0.51 %
Dr. Toralf Haag, Germany	700	*
Dr. Ross L. Levine, United States	2.151 (7)	*
Dr. Elaine Mardis, United States	— (8)	—
Lawrence A. Rosen, United States	— (9)	—
Elizabeth Tallett, United States	28,668 (10)	*

* Indicates that the person beneficially owns less than 0.5% of the Common Shares issued and outstanding as of January 31, 2021.

- (1) The number of Common Shares outstanding as of January 31, 2021 was 227,871,296. The persons and entities named in the table have sole voting and investment power with respect to all shares shown as beneficially owned by them and have the same voting rights as shareholders with respect to Common Shares.
- (2) Does not include Common Shares subject to options or awards held by such persons at January 31, 2021. See footnotes below for information regarding options now exercisable or that could become exercisable within 60 days of the date of this table.
- (3) Does not include 61,590 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.
- (4) Does not include 88,299 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.
- (5) Does not include 10,392 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.
- (6) Includes 357,893 shares held by CC Verwaltungs GmbH, of which Dr. Colpan is the sole stockholder and 770,370 shares held by Colpan GbR. Does not include 10,860 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.
- (7) Does not include 3,946 shares issuable upon the release of unvested stock awards that could become released within 60 days from the date of this table.
- (8) Does not include 10,392 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.
- (9) Does not include 10,392 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.
- (10) Does not include 1,563 shares issuable upon the exercise of options now exercisable having exercise prices of \$15.59 per share. Options expire on February 2022. Does not include 10,392 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.

The following table sets forth the options of our officers and directors as of January 31, 2021:

Name	Number of Options	Expiration Date	Exercise Price
Elizabeth E. Tallett	1,563	2/28/2022	\$15.59

Employees

As of December 31, 2020, we employed 5,610 individuals, of which 16% worked in research and development, 39% in sales, 28% in production, 6% in marketing and 11% in administration.

Region	Research & Development	Sales	Production	Marketing	Administration	Total
Americas	210	575	392	71	80	1,328
Europe, Middle East & Africa	642	825	1,030	177	385	3,059
Asia Pacific, Japan & Rest of World	50	792	144	82	155	1,223
December 31, 2020	902	2,192	1,566	330	620	5,610

At December 31, 2019 and 2018, we employed 5,096 and 4,952 individuals, respectively.

As a company headquartered in the European Union, freedom of association and collective bargaining are cornerstones of the good relationship between management and representatives of employees. A significant portion of workforce is employed in the Organization for Security and Co-Operation in Europe (OSCE) member states and in all regions where we operate, we comply with all applicable laws regarding freedom of association and collective bargaining and respect local laws and regulations concerning labor relations.

We strive to respect and promote human rights and our commitment on this issue can be found in our Human Rights Policy available on our website. This policy is communicated to all employees globally on an ongoing basis via the company intranet and also given to newly hired employees. We strive to foster an open-door workplace culture where employees are able to approach management and/or Human Resources about their concerns without fear of retaliation. Our policy states that employees may communicate openly with management regarding their working conditions without threat of reprisal, intimidation or harassment.

Depending on local law and custom, there are different types of employment ranging from long-term fixed contracts to temporary positions, also including flexible time and programs for parents returning from childcare. In 2020, part-time

employees represented 3.0% of our workforce (2019: 3.0%) and temporary employees represented 2.1% with QIAGEN contract / fixed-term work contract (2019: 1.24%).

Management believes that its relations with regional labor unions and employees are good.

Stock Plans

We adopted the QIAGEN N.V. Amended and Restated 2005 Stock Plan (the 2005 Plan) which was approved by our shareholders on June 14, 2005. The 2005 Plan expired by its terms in April 2015 and no further awards will be granted under the 2005 Plan. On June 25, 2014, our shareholders approved the QIAGEN N.V. 2014 Stock Plan (the 2014 Plan), which replaced the 2005 Plan in April 2015. An aggregate of 16.7 million Common Shares were reserved for issuance pursuant to the 2014 Plan, subject to certain antidilution adjustments. We issue Treasury Shares to satisfy option exercises and award releases and had approximately 14.4 million Common Shares reserved and available for issuance under the 2005 and 2014 Plans at December 31, 2020.

Pursuant to the 2014 Plan, stock rights, which include options to purchase our Common Shares, stock grants and stock-based awards, may be granted to employees and consultants of QIAGEN and its subsidiaries and to Supervisory Directors. Options granted pursuant to the 2014 Plan may either be incentive stock options within the meaning of Section 422 of the United States Internal Revenue Code of 1986, as amended (the Code), or non-qualified stock options. Options granted to members of the Supervisory Board and the Managing Board must have an exercise price that is higher than the market price at the time of grant. Generally, the stock rights and incentive stock options, as well as non-qualified options, stock grants and stock-based awards have terms of up to five or ten years, subject to earlier termination in the event of death, disability or other termination of employment. The vesting and exercisability of certain stock rights will be accelerated in the event of a Change of Control, as defined in the agreements under the 2014 Plan.

The Plan is administered by the Compensation Committee of the Supervisory Board, which selects participants from among eligible employees, consultants and directors and determines the number of shares subject to the stock-based award, the length of time the award will remain outstanding, the manner and time of the award's vesting, the price per share subject to the award and other terms and conditions of the award consistent with the Plan. The Compensation Committee's decisions are subject to the approval of the Supervisory Board.

The Compensation Committee has the power, subject to Supervisory Board approval, to interpret the plans and to adopt such rules and regulations (including the adoption of "sub plans" applicable to participants in specified jurisdictions) as it may deem necessary or appropriate. The Compensation Committee or the Supervisory Board may at any time amend the plans in any respect, subject to Supervisory Board approval, and except that (i) no amendment that would adversely affect the rights of any participant under any option previously granted may be made without such participant's consent and (ii) no amendment shall be effective prior to shareholder approval to the extent such approval is required to ensure favorable tax treatment for incentive stock options or to ensure compliance with Rule 16b-3 under the United States Securities Exchange Act of 1934, as amended (the Exchange Act) at such times as any participants are subject to Section 16 of the Exchange Act.

As of January 31, 2021, there were 0.3 million options outstanding with exercise prices ranging between \$14.91 and \$21.87 and expiring between May 31, 2021 and May 31, 2023. The exercise price of the options is the fair market value of the Common Shares as of the date of grant or a premium above fair market value. Additionally, there were 5.1 million stock unit awards outstanding as of January 31, 2021. These awards will be released between February 15, 2021 and May 31, 2028. As of January 31, 2021, 1.4 million stock unit awards were held by the officers and directors of QIAGEN, as a group.

Item 7. Major Shareholders and Related Party Transactions

The following table sets forth certain information concerning the ownership of Common Shares of each holder of greater than 5% ownership. None of these holders have any different voting rights than other holders of our Common Shares.

Name and Country of Residence	Shares Beneficially Owned	
	Number	Percent Ownership ⁽¹⁾
BlackRock, Inc., United States and United Kingdom	34,350,924 (2)	15.07 %
Massachusetts Financial Services Company, United States and Canada	11,783,002 (3)	5.17 %

(1) The percentage ownership was calculated based on 227,985,334 Common Shares outstanding as of December 31, 2020.

(2) Of the 34,350,924 shares attributed to BlackRock, Inc., it has sole voting power over 32,239,657 and sole dispositive power over all 34,350,924 shares. This information is based solely on the Schedule 13G filed by BlackRock, Inc. with the Securities and Exchange Commission on January 26, 2021, which reported ownership as of December 31, 2020.

- (3) Of the 11,783,002 shares attributed to Massachusetts Financial Services Company, it has sole voting power over 9,404,989 and sole dispositive power over all 11,783,002 shares. This information is based solely on the Schedule 13G filed by Massachusetts Financial Services Company with the Securities and Exchange Commission on February 11, 2021, which reported ownership as of December 31, 2020.

Our common stock is traded on the New York Stock Exchange in the United States and on the Prime Standard Segment of the Frankfurt Stock Exchange in Germany. A significant portion of our shares are held electronically in the account of a stockbroker, therefore we generally have no way of determining who our shareholders are, their geographical location or how many shares a particular shareholder owns. As of January 31, 2021, there were 95 shareholders of record of our Common Shares.

Control of Registrant

To our knowledge, we are not directly or indirectly owned or controlled by another corporation, by any foreign government, or by any other natural or legal person. As of January 31, 2021, the officers and directors of QIAGEN as a group beneficially owned 1.4 million Common Shares, or 0.6% of the then outstanding Common Shares.

Related Party Transactions

For information on related party transactions, see Note 24 "Related Party Transactions" of the Notes to Consolidated Financial Statements.

Item 8. Financial Information

See Item 18.

Legal Proceedings

For information on legal proceedings, see Note 20 "Commitments and Contingencies" of the Notes to Consolidated Financial Statements.

While no assurances can be given regarding the outcome of proceedings described in Note 20, 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.

Statement of Policy on Dividend Distribution

We have not paid any dividends on our Common Shares since our inception and do not intend to pay any dividends on our Common Shares in the foreseeable future. We intend to retain our earnings, if any, for the development of our business.

Disclosure pursuant to Section 219 of the Iran Threat Reduction & Syria Human Rights Act (ITRA)

QIAGEN is a global leader in Sample to Insight solutions that transform biological samples into valuable molecular insights. QIAGEN GmbH, our subsidiary located in Hilden, Germany, has conducted limited business with certain Iranian and Syrian entities consisting of sales for our consumables and instrumentation products. In 2020, sales to Iran totaled \$0.6 million, or approximately 0.03% of our consolidated net sales and sales to Syria totaled \$92,000. These transactions were processed in compliance with German and European Union customs regulations; and do not include any products that are "dual-use" products or products requiring special clearance from the German customs authorities.

Although these activities are compliant with applicable law and not financially material, the Iran Threat Reduction and Syria Human Rights Act of 2012 (the "Act") requires us to include the following disclosures in this report. U.S. affiliates, or foreign affiliates controlled by U.S. affiliates, are not involved in these sales activities and we have not knowingly conducted a transaction or dealt with a person or entity designated in U.S. Executive Orders No. 13224 and 13382. No business has been transacted with the Governments of Iran or Syria as defined in the Act. We do not believe any of our activities are sanctionable under the Iran Sanctions Act or the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010.

In light of the nature of the products concerned, we do not currently anticipate any change in activities in Iran that would result in a material impact on QIAGEN.

Item 9. The Offer and Listing

Effective January 10, 2018, our Common Shares began trading on the New York Stock Exchange (NYSE) under the symbol QGEN. Prior to that, from July 3, 2006 until January 9, 2018, our Common Shares were traded on the NASDAQ Global Select Market under the symbol QGEN. Previously, since February 15, 2005, our Common Shares had been quoted on the NASDAQ National Market under the symbol QGEN. Prior to that, since June 27, 1996, our Common Shares had been quoted on the NASDAQ National Market under the symbol QGENF. The following tables set forth the annual high and low sale prices for the last five years, the quarterly high and low sale prices for the last two years, and the monthly high and low sale prices for the last six months of our Common Shares on the NYSE and NASDAQ Global Select, as applicable.

	High (\$)	Low (\$)
Annual:		
2016	28.84	19.94
2017	36.34	27.40
2018	39.45	30.78
2019	43.16	25.04
2020	55.27	32.97
 Quarterly 2019:		
First Quarter	40.77	33.52
Second Quarter	41.55	35.61
Third Quarter	40.93	32.36
Fourth Quarter	43.16	25.04
 Quarterly 2020:		
First Quarter	42.41	32.97
Second Quarter	44.41	39.05
Third Quarter	52.86	42.48
Fourth Quarter	55.27	45.33
 Quarterly 2021:		
First Quarter (through February 2021)	59.00	49.14
 Monthly:		
September 2020	52.51	46.39
October 2020	55.27	47.12
November 2020	51.77	45.33
December 2020	53.27	47.42
January 2021	54.78	50.64
February 2021	59.00	49.14

From September 25, 1997, to December 31, 2002, our Common Shares were traded on the Frankfurt Stock Exchange Neuer Markt under the symbol QIA and with the security code number 901626. As of January 1, 2003, the trading of our Common Shares was transferred to the Prime Standard Segment of the Frankfurt Stock Exchange, where QIAGEN is a member of the TecDAX, an index of the 30 leading technology companies in Germany not included in the benchmark DAX index. In addition to the listing in the TecDAX, QIAGEN is also a member of MDAX effective September 24, 2018, due to reorganization of German stock market indices. MDAX is an index of the 60 largest companies in Germany after the 30 largest companies included in DAX. The following table sets forth the annual high and low sale prices for the last five years, the quarterly high and low sale prices for the last two years, and the monthly high and low sale prices for the last six months of our Common Shares on the Prime Standard.

	High (EUR)	Low (EUR)
Annual:		
2016	27.26	17.76
2017	31.52	25.41
2018	34.05	25.22
2019	39.19	22.54
2020	46.95	29.55
 Quarterly 2019:		
First Quarter	36.19	29.19
Second Quarter	37.03	31.66
Third Quarter	36.32	29.21
Fourth Quarter	39.19	22.54
 Quarterly 2020:		
First Quarter	38.75	29.55
Second Quarter	39.80	36.11
Third Quarter	45.44	37.92
Fourth Quarter	46.95	36.00
 Quarterly 2021:		
First Quarter (through February 2021)	46.45	40.55

	High (EUR)	Low (EUR)
Monthly:		
September 2020	45.44	39.34
October 2020	46.95	40.25
November 2020	44.08	36.00
December 2020	43.65	39.20
January 2021	45.35	41.56
February 2021	46.45	40.55

Item 10. Additional Information

Memorandum and Articles of Association

We are a public company with limited liability (*naamloze vennootschap*) incorporated under Dutch law and registered with the Dutch Trade Register under file number 12036979. Set forth below is a summary of certain provisions of our full Articles of Association, as lastly amended on January 17, 2020 (the Articles), and Dutch law, where appropriate. The Dutch Corporate Governance Code, (the Dutch Code), contains principles of good corporate governance and best practice provisions that regulate relations between the Managing Board, the Supervisory Board and the Shareholders. The principles and provisions are aimed at defining responsibilities for long-term value creation, risk control, effective management and supervision, remuneration and the relationship with Shareholders, including the General Meeting, and other stakeholders. The Dutch Code was lastly amended in 2016. This amended Dutch Code is applicable as from January 1, 2017 and replaces the 2008 Code. A listed company should either comply with, or if not, explain in its annual report why and to what extent it does not comply, with the principles of the Dutch Code. The Dutch Code has been taken into account in the summary below.

This summary does not purport to be complete and is qualified in its entirety by reference to the Articles, Dutch Law and the Dutch Code.

Corporate Purpose

Our objectives include, without limitation, the performance of activities in the biotechnology industry, as well as incorporating, acquiring, participating in, financing, managing and having any other interest in companies or enterprises of any nature, raising and lending funds and such other acts as may be conducive to our business.

Managing Directors

QIAGEN shall be managed by a Managing Board consisting of one or more Managing Directors under the supervision of the Supervisory Board. The Managing Board is responsible for our continuity and our affiliated enterprise. The Managing Board focuses on our long-term value creation and our affiliated enterprise, and takes into account our stakeholders' interests that are relevant in this context, which includes but is not limited to our shareholders. Managing Directors shall be appointed by the General Meeting upon the joint meeting of the Supervisory Board and the Managing Board (Joint Meeting), having made a binding nomination for each vacancy. However, the General Meeting may at all times overrule the binding nature of such a nomination by a resolution adopted by at least a two-thirds majority of the votes cast, if such majority represents more than half the issued share capital. This is different from the provisions of many American corporate statutes, including the Delaware General Corporation Law, which give the directors of a corporation greater authority in choosing the executive officers of a corporation. Under our Articles, the General Meeting may suspend or dismiss a managing director at any time. The Supervisory Board shall also at all times be entitled to suspend (but not to dismiss) a Managing Director. The Articles provide that the Supervisory Board may adopt management rules governing the internal organization of the Managing Board.

Furthermore, the Supervisory Board shall determine the salary, the bonus, if any, and the other compensation terms and conditions of employment of the Managing Directors within the scope of the remuneration policy. The current remuneration policy of the Managing Board has been adopted in our Annual General Meeting on June 25, 2014.

Resolutions of the Managing Board shall be validly adopted, if adopted by simple majority of votes, at least one of whom voting in favour of the proposal must be the Chairman. Each Managing Director has the right to cast one vote.

Under Dutch law, in the event that there is a conflict of interest between a Managing Director and us and our business on a certain matter, that Managing Director shall not participate in the discussions and voting on that matter. If all our Managing Directors have a conflict of interest, such resolution shall be adopted by the Supervisory Board. If all Supervisory Directors have a conflict of interest as well, the General Meeting will be authorized to resolve on such matter. According to the Dutch Code, any conflict of interest or apparent conflict of interest between the company and Managing Directors should be prevented. To avoid conflicts of interest, adequate measures should be taken. Under the Dutch Code, the Supervisory Board is responsible for the decision-making on dealing with conflicts of interest regarding Managing Directors, Supervisory Directors and majority shareholders in relation to us. A Managing Director should report any potential conflict of interest in a transaction that is of material significance to the Company and/or to such Managing Director to the Chairman of the Supervisory Board and to the other members of the Managing Board without delay. The Supervisory Board should decide, outside the presence of the Managing director, whether there is a conflict of interest.

Supervisory Directors

The Supervisory Board shall be responsible for supervising the policy pursued by the Managing Board and our general course of affairs. Under our Articles, the Supervisory Directors are required to serve our interests and our business and the interest of all stakeholders (which includes but is not limited to our shareholders) in fulfilling their duties. The Supervisory Board shall consist of such number of members as the Joint Meeting may from time to time determine, with a minimum of three members. The Supervisory Directors shall be appointed by the General Meeting upon the Joint Meeting having made a binding nomination for each vacancy. If during a financial year a vacancy occurs in the Supervisory Board, the Supervisory Board may appoint a Supervisory Director who will cease to hold office at the next Annual General Meeting. Under Dutch law, in the event that there is a conflict of interest between a Supervisory Director and us and our business on a certain matter, that Supervisory Director shall not participate in the discussions and voting on that matter. Under the Dutch Code, a Supervisory Director should report any conflict of interest or potential conflict of interest in a transaction that is of material significance to the Company and/or to such Supervisory Director to the Chairman of the Supervisory Board without delay. The Supervisory Board should decide, outside the presence of the Supervisory Director concerned, whether there is a conflict of interest. If all Supervisory Directors have a conflict of interest, the relevant resolution shall be adopted by the General Meeting. Decisions to enter into transactions under which a Supervisory Director would have a conflict of interest that are of material significance to QIAGEN and/or to the Supervisory Director concerned, require the approval of the Supervisory Board.

Under our Articles, the General Meeting determines the compensation of the Supervisory Directors upon the proposal of the Compensation Committee with due observance of the remuneration policy for Supervisory Directors as adopted at the 2020 Annual General Meeting. Under the Dutch Code, any shares held by a Supervisory Director in the Company on whose board he or she sits should be long-term investments.

Under our Articles, the General Meeting may suspend or dismiss a Supervisory Director at any time. This is different from the provisions of many American corporate statutes, including the Delaware General Corporation Law, which provides that directors may vote to fill vacancies on the board of directors of a corporation.

Liability of Managing Directors and Supervisory Directors

Under Dutch law, as a general rule, Managing Directors and Supervisory Directors are not liable for obligations we incur. Under certain circumstances, however, they may become liable, either towards QIAGEN (internal liability) or to others (external liability), although some exceptions are described below.

Liability towards QIAGEN

Failure of a Managing or Supervisory Director to perform his or her duties does not automatically lead to liability. Liability is only incurred in the case of a clear, indisputable shortcoming about which no reasonably judging business-person would have any doubt. In addition, the Managing or Supervisory Director must be deemed to have been grossly negligent. Managing Directors are jointly and severally liable for failure of the Managing Board as a whole, but an individual Managing Director will not be held liable if he or she is determined not to have been responsible for the mismanagement and has not been negligent in preventing its consequences. Supervisory Directors are jointly and severally liable for failure of the Supervisory Board as a whole, but an individual Supervisory Director will not be held liable if he or she is determined not to have been responsible for the mismanagement and has not been negligent in preventing its consequences.

Liability for Misrepresentation in Annual Accounts

Managing and Supervisory Directors are also jointly and severally liable to any third party for damages suffered as a result of misrepresentation in the annual accounts, management commentary or interim statements of QIAGEN, although a Managing or Supervisory Director will not be held liable if found not to be personally responsible for the misrepresentation. Moreover, a Managing or Supervisory Director may be found to be criminally liable if he or she deliberately publishes false annual accounts or deliberately allows the publication of such false annual accounts.

Tort Liability

Under Dutch law, there can be liability if one has committed a tort (*onrechtmatige daad*) against another person. Although there is no clear definition of “tort” under Dutch law, breach of a duty of care towards a third party is generally considered to be a tort. Therefore, a Dutch corporation may be held liable by any third party under the general rule of Dutch laws regarding tort claims. In exceptional cases, Managing Directors and Supervisory Directors have been found liable on the basis of tort under Dutch common law, but it is generally difficult to hold a Managing or Supervisory Director personally liable for a tort claim. Shareholders cannot base a tort claim on any losses which derive from and coincide with losses we suffered. In such cases, only we can sue the Managing or Supervisory Directors.

Criminal Liability

Under Dutch law, if a legal entity has committed a criminal offence, criminal proceedings may be instituted against the legal entity itself as well as against those who gave order to or were in charge of the forbidden act. As a general rule, it is held that a Managing Director is only criminally liable if he or she played a reasonably active role in the criminal act.

Indemnification

Article 27 of our Articles provides that we shall indemnify every person who is or was a Managing Director or Supervisory Director against all expenses (including attorneys' fees) judgments, fines and amounts paid in settlement with respect to any threatened pending or completed action, suit or proceeding as well as against expenses (including attorneys' fees) actually and reasonably incurred in connection with the defense or settlement of an action or proceeding, if such person acted in good faith and in a manner he reasonably could believe to be in or not opposed to our best interests. An exception is made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable for gross negligence or willful misconduct in the performance of his or her duty to us.

Classes of Shares

The authorized classes of our shares consist of Common Shares, Financing Preference Shares and Preference Shares. No Financing Preference Shares or Preference Shares have been issued.

Common Shares

Common Shares are issued in registered form only. No share certificates are issued for Common Shares and Common Shares are registered in either our shareholders register with American Stock Transfer & Trust Company, or New York Transfer Agent, our transfer agent and registrar in New York, or our shareholder register with TMF FundServices B.V., Westblaak 89, NL-3012 KG Rotterdam.

The transfer of registered shares requires that a written instrument of transfer and the written acknowledgment of such transfer by us or the New York Transfer Agent (in our name).

Financing Preference Shares

No Financing Preference Shares are currently issued or outstanding. If issued, Financing Preference Shares will be issued in registered form only. No share certificates are issued for Financing Preference Shares. Financing Preference Shares must be fully paid up upon issue. The preferred dividend rights attached to Financing Preference Shares are described under "Dividends" below. We have no present plans to issue any Financing Preference Shares.

Preference Shares

No Preference Shares are currently issued or outstanding. If issued, Preference Shares will be issued in registered form only. No share certificates shall be issued for Preference Shares. Only 25% of the nominal value thereof is required to be paid upon subscription for Preference Shares. The obligatory payable part of the nominal amount (or the call) must be equal for each Preference Share. The Managing Board may, subject to the approval of the Supervisory Board, resolve on which day and up to which amount a further call must be paid on Preference Shares which have not yet been paid up in full. The preferred dividend rights attached to Preference Shares are described under "Dividends" below.

Pursuant to our Articles, QIAGEN's Supervisory Board is entitled, if and in so far as the Supervisory Board has been designated by our General Meeting, to resolve to issue Preference Shares in case of an intended take-over of our Company by (i) any person who alone or with one or more other persons, directly or indirectly, have acquired or given notice of an intent to acquire (beneficial) ownership of an equity stake which in aggregate equals 20% or more of our share capital then outstanding or (ii) an "adverse person" as determined by the Supervisory Board. For this purpose, an "adverse person" is generally any (legal) person, alone or together with affiliates or associates, with an equity stake in our Company which the Supervisory Board considers to be substantial and where the Supervisory Board is of the opinion that this (legal) person has engaged in an acquisition that is intended to cause or pressure QIAGEN to enter into transactions intended to provide such person with short-term financial gain under circumstances that would not be in the interest of QIAGEN and our shareholders or whose ownership is reasonably likely to cause a material adverse impact on our business prospects. Currently the Supervisory Board has not been designated to issue Preference Shares.

On August 2, 2004, we entered into an agreement (Option Agreement) with Stichting Preferente Aandelen QIAGEN (SPAQ) which was most recently amended on June 4, 2012. Pursuant to the Option Agreement, SPAQ was granted an option to acquire such number of Preference Shares as are equal to the total number of all outstanding Common Shares minus one in our share capital at the time of the relevant exercise of the right. SPAQ may exercise its right to acquire the Preference Shares in all situations that it believes that our interest or our stakeholders is at risk (which situations include but are not limited to (i) receipt of a notification from the Managing Board that a takeover is imminent and (ii) receipt of a notification from the Managing Board that one or more activist shareholders take a position that is not in the interest of QIAGEN, our shareholders or our other stakeholders), provided that the conditions mentioned in the previous paragraph have been met. Due to the implementation of the EC Directive on Takeover Bids in Dutch legislation, the exercise of the option to acquire Preference Shares by SPAQ and the subsequent issuance of Preference Shares to SPAQ needs to be done with due observance and in consideration of the restrictions imposed by the Public Offer Rules.

SPAQ was incorporated on August 2, 2004. Its principal office is located at Hulsterweg 82, 5912 PL Venlo, The Netherlands. Its statutory objectives are to protect our interests and our enterprise and the enterprises of companies which are linked to us. SPAQ shall attempt to accomplish its objectives by way of acquiring Preference Shares in the share capital of QIAGEN and to exercise the voting rights in our interests and the interests of our stakeholders.

The board of SPAQ shall consist of at least two directors. Upon incorporation of SPAQ, two members were appointed to the board of SPAQ who resigned in 2019. In December 2019, two new members were appointed. Additional board members shall be appointed by the board of SPAQ. Board resolutions will be adopted by unanimity of the votes cast. SPAQ will be represented either by its board or by the chairman of its board.

Pre-emptive Rights

Under our Articles, existing holders of Common Shares will have pre-emptive rights in respect of future issuances of Common Shares in proportion to the number of Common Shares held by them, unless limited or excluded as described below. Holders of Common Shares shall not have pre-emptive rights in respect of future issuances of Financing Preference Shares or Preference Shares. Holders of Financing Preference Shares and Preference Shares shall not have pre-emptive rights in respect of any future issuances of share capital. Pre-emptive rights do not apply with respect to shares issued against contributions other than in cash or shares issued to our employees or one of our group companies. Under our Articles, the Supervisory Board has the power to limit or exclude any pre-emptive rights to which shareholders may be entitled, provided that it has been authorized by the General Meeting to do so. The authority of the Supervisory Board to limit or exclude pre-emptive rights can only be exercised if at that time the authority to issue shares is in full force and effect. The authority to limit or exclude pre-emptive rights may be

extended in the same manner as the authority to issue shares. If there is no designation of the Supervisory Board to limit or exclude pre-emptive rights in force, the General Meeting shall have authority to limit or exclude such pre-emptive rights, but only upon the proposal of the Supervisory Board.

Resolutions of the General Meeting (i) to limit or exclude pre-emptive rights or (ii) to designate the Supervisory Board as the corporate body that has authority to limit or exclude pre-emptive rights, require a majority of at least two-thirds of the votes cast in a meeting of shareholders if less than 50% of the issued share capital is present or represented. For these purposes, issuances of shares include the granting of rights to subscribe for shares, such as options and warrants, but not the issue of shares upon exercise of such rights.

On June 30, 2020, the General Meeting resolved to authorize the Supervisory Board until December 30, 2021 to issue Common Shares and Financing Preference Shares or grant rights to subscribe for such shares, the aggregate par value of which shall be equal to the aggregate par value of fifty percent of the shares issued and outstanding in the capital of the Company as at December 31, 2019 as included in the Annual Accounts for Calendar Year 2019.

The General Meeting subsequently resolved to grant the authority to restrict or exclude pre-emptive rights until December 30, 2021. However, the General Meeting has limited this authority in a way that the Supervisory Board can only exclude or limit the pre-emptive rights in relation to (i) no more than 10% of the aggregate par value of all shares issued and outstanding in the capital of the Company as of December 31, 2019 increased by (ii) solely for the purpose of strategic transactions such as mergers, acquisitions or strategic alliances an additional 10% of the aggregate par value of all shares issued and outstanding in the capital of the Company as of December 31, 2019.

Acquisition of Our Own Shares

We may acquire our own shares, subject to certain provisions of Dutch law and our Articles, if (i) shareholders' equity less the payment required to make the acquisition does not fall below the sum of paid-up and called-up capital and any reserves required by Dutch law or the Articles and (ii) we and our subsidiaries would not thereafter hold shares with an aggregate nominal value exceeding half of our issued share capital. Shares that we hold in our own capital or shares held by one of our subsidiaries may not be voted. The Managing Board, subject to the approval of the Supervisory Board, may affect our acquisition of shares in our own capital. Our acquisitions of shares in our own capital may only take place if the General Meeting has granted to the Managing Board the authority to effect such acquisitions. Such authority may apply for a maximum period of 5 years and must specify the number of shares that may be acquired, the manner in which shares may be acquired and the price limits within which shares may be acquired. Dutch corporate law allows for the authorization of the Managing Board to purchase a number of shares equal to up to 50% of the Company's issued share capital on the date of the acquisition. On June 30, 2020, the General Meeting resolved to extend the authorization of the Managing Board in such manner that the Managing Board may cause us to acquire shares in our own share capital, for an 18-month period beginning June 30, 2020 until December 30, 2021, without limitation at a price between one Euro cent (Euro 0.01) and one hundred ten percent (110%) of the price for such shares on the New York Stock Exchange or, as applicable, the Frankfurt Stock Exchange, for the five trading days prior to the day of purchase, or, with respect to Preference and Finance Preference shares, against a price between one Euro cent (Euro 0.01) and three times the issuance price and in accordance with applicable provisions of Dutch law and our Articles.

Capital Reduction

Subject to the provisions of Dutch law and our Articles, the General Meeting may, upon the proposal of the Supervisory Board, resolve to reduce the issued share capital by (i) canceling shares or (ii) reducing the nominal value of shares through an amendment of our Articles. Cancellation with repayment of shares or partial repayment on shares or release from the obligation to pay up may also be made or given exclusively with respect to Common Shares, Financing Preference Shares or Preference Shares.

Financial Year, Annual Accounts and Independent Registered Public Accounting Firm

Our financial year coincides with the calendar year. Dutch law requires that within four months after the end of the financial year, the Managing Board must make available a report with respect to such financial year, including our financial statements for such year prepared under International Financial Reporting Standards and accompanied by a report of an Independent Registered Public Accounting Firm. The annual report is submitted to the Annual General Meeting for adoption.

The General Meeting appoints the external auditor of our statutory financial statements prepared in accordance with International Financial Reporting Standards and to issue a report thereon. On June 30, 2020, our shareholders appointed KPMG Accountants N.V. to serve as our external auditor for our statutory consolidated financial statements prepared in accordance with International Financial Reporting Standards for the year ending December 31, 2020.

Dividends and Other Distributions

Subject to certain exceptions, dividends may only be paid out of profits as shown in our annual financial statements as adopted by the General Meeting. Distributions may not be made if the distribution would reduce shareholders' equity below the sum of the paid-up capital and any reserves required by Dutch law or our Articles.

Out of profits, dividends must first be paid on any outstanding Preference Shares (the Preference Share Dividend) in a percentage (the Preference Share Dividend Percentage) of the obligatory call amount paid up on such shares at the beginning of the financial year in respect of which the distribution is made. The Preference Share Dividend Percentage is equal to the average main refinancing rates during the financial year for which the distribution is made. Average main refinancing rate shall be understood to mean the average value on each individual day during the financial year for which the distribution is made of the main refinancing rates prevailing on such day. The main refinancing rate shall be understood to mean the rate of the Main Refinancing Operation as determined and published from time to time by the European Central Bank. If and to the extent that profits are not sufficient to pay the Preference Share Dividend in full, the deficit shall be paid out of the reserves, with the exception of any reserve, which was formed as share premium reserve upon the issue of Financing Preference Shares. If in any financial year the profit is not sufficient to make the distributions referred to above and if no distribution or only a partial distribution is made from the reserves referred to above, such that the deficit is not fully made good, no further distributions will be made as described below until the deficit has been made good.

Out of profits remaining after payment of any dividends on Preference Shares, the Supervisory Board shall determine such amounts as shall be kept in reserve as determined by the Supervisory Board. Out of any remaining profits not allocated to reserve, a dividend (the Financing Preference Share Dividend) shall be paid on the Financing Preference Shares equal to a percentage (the Financing Preference Share Dividend Percentage) over the nominal value of the Financing Preference Shares, increased by the amount of share premium that was paid upon the first issue of Financing Preference Shares. The Financing Preference Shares Dividend Percentage which percentage is related to a fixed average effective yield on the prime interest rate on corporate loans in the United States as quoted in the Wall Street Journal as set forth in article 40.4 of our Articles. If and to the extent that the profits are not sufficient to pay the Financing Preference Share Dividend in full, the deficit may be paid out of the reserves if the Managing Board so decides with the approval of the Supervisory Board, with the exception of the reserve which was formed as share premium upon the issue of Financing Preference Shares.

Insofar as the profits have not been distributed or allocated to reserves as specified above, the General Meeting may act to allocate such profits, provided that no further dividends will be distributed on the Preference Shares or the Financing Preference Shares.

The General Meeting may resolve, on the proposal of the Supervisory Board, to distribute dividends or reserves, wholly or partially, in the form of QIAGEN shares.

Distributions as described above are payable as from a date to be determined by the Supervisory Board. Distributions will be made payable at an address or addresses in The Netherlands to be determined by the Supervisory Board, as well as at least one address in each country where the shares are listed or quoted for trading. The Supervisory Board may determine the method of payment of cash distributions. Distributions in cash that have not been collected within five years and two days after they have become due and payable shall revert to QIAGEN.

Dutch law provides that the declaration of dividends out of the profits that are at the free disposal of the General Meeting is the exclusive right of the General Meeting. This is different from the corporate law of most jurisdictions in the United States, which permit a corporation's board of directors to declare dividends.

Shareholder Meetings, Voting Rights and Other Shareholder Rights

The Annual General Meeting is required to be held within six months after the end of each financial year for the purpose of, among other things, adopting the annual accounts and filling of any vacancies on the Managing and Supervisory Boards.

Extraordinary General Meetings are held as often as deemed necessary by the Managing Board or Supervisory Board, or upon the request of one or more shareholders and other persons entitled to attend meetings jointly representing at least 40% of our issued share capital or by one or more shareholders jointly representing at least 10% of our issued share capital as provided for and in accordance with the laws of The Netherlands.

General Meetings are held in Amsterdam, Haarlemmermeer (Schiphol Airport), Arnhem, Maastricht, Rotterdam, Venlo or The Hague. The notice convening a General Meeting must be given in such manner as shall be authorized by law including but not limited to an announcement published by electronic means no later than the forty-second day prior to day of the general meeting. The notice will contain the agenda for the meeting or state that the agenda can be obtained at our offices.

The agenda shall contain such subjects to be considered at the General Meeting, as the persons convening or requesting the meeting shall decide. Under Dutch law, holders of shares representing solely or jointly at least three hundredth part of the issued share capital may request QIAGEN not later than on the sixtieth day prior to the day of the General Meeting, to include

certain subjects on the notice convening a meeting. No valid resolutions can be adopted at a General Meeting in respect of subjects which are not mentioned in the agenda.

Dutch corporate law sets a mandatory (participation and voting) record date for Dutch listed companies fixed at the twenty-eighth day prior to the day of the shareholders' meeting. Shareholders registered at such record date are entitled to attend and exercise their rights as shareholders at the General Meeting, regardless of a sale of shares after the record date.

General Meetings are presided over by the Chairman of the Supervisory Board or, in his absence, by any person nominated by the Supervisory Board.

At the General Meeting, each share shall confer the right to cast one vote, unless otherwise provided by law or our Articles. No votes may be cast in respect of shares that we or our subsidiaries hold, or by usufructuaries and pledgees. All shareholders and other persons entitled to vote at General Meetings are entitled to attend General Meetings, to address the meeting and to vote. They must notify the Managing Board in writing of their intention to be present or represented not later than on the third day prior to the day of the meeting, unless the Managing Board permits notification within a shorter period of time prior to any such meeting. Subject to certain exceptions, resolutions may be passed by a simple majority of the votes cast.

Except for resolutions to be adopted by the meeting of holders of Preference Shares, our Articles do not allow the adoption of shareholders resolutions by written consent (or otherwise without holding a meeting).

A resolution of the General Meeting to amend our Articles, dissolve QIAGEN, issue shares or grant rights to subscribe for shares or limit or exclude any pre-emptive rights to which shareholders shall be entitled is valid only if proposed to the General Meeting by the Supervisory Board.

A resolution of the General Meeting to amend our Articles is further only valid if the complete proposal has been made available for inspection by the shareholders and the other persons entitled to attend General Meetings at our offices as from the day of notice convening such meeting until the end of the meeting. A resolution to amend our Articles to change the rights attached to the shares of a specific class requires the approval of the relevant class meeting.

Resolutions of the General Meeting in a meeting that has not been convened by the Managing Board and/or the Supervisory Board, or resolutions included on the agenda for the meeting at the request of shareholders, will be valid only if adopted with a majority of two-thirds of votes cast representing more than half the issued share capital, unless our Articles require a greater majority or quorum.

A resolution of the General Meeting to approve a legal merger or the sale of all or substantially all of our assets is valid only if adopted by a vote of at least two-thirds of the issued share capital, unless proposed by the Supervisory Board, in which case a simple majority of the votes cast shall be sufficient.

A shareholder shall upon request be provided, free of charge, with written evidence of the contents of the share register with regard to the shares registered in its name. Furthermore, any shareholder shall, upon written request, have the right, during normal business hours, to inspect our share register and a list of our shareholders and their addresses and shareholdings, and to make copies or extracts therefrom. Such request must be directed to our Managing Directors at our registered office in The Netherlands or at our principal place of business. Financial records and other company documents (other than those made public) are not available in this manner for shareholder review, but an extract of the minutes of the General Meeting shall be made available.

According to Dutch law and our Articles, certain resolutions of the Managing Board regarding a significant change in the identity or nature of us or our enterprise are subject to the approval of the General Meeting. The following resolutions of the Managing Board require the approval of the General Meeting in any event:

- (i) the transfer of our enterprise or practically our entire enterprise to a third party;
- (ii) the entry into or termination of a long-term cooperation by us or one of our subsidiaries (*dochtermaatschappijen*) with another legal person or partnership or as a fully liable general partner of a limited partnership or a general partnership, if such cooperation or termination is of a far-reaching significance for us; and
- (iii) the acquisition or divestment by us or one of our subsidiaries (*dochtermaatschappijen*) of a participating interest in the capital of a company with a value of at least one-third of the sum of our assets according to our consolidated balance sheet and explanatory notes in our last adopted annual accounts.

No Derivative Actions; Right to Request Independent Inquiry

Dutch law does not afford shareholders the right to institute actions on behalf of us or in our interest. Shareholders holding at least one-tenth of our issued capital, or EUR 225,000, in nominal value of our shares may inform the Managing Board and the Supervisory Board of their objections as to our policy or the course of our affairs and, within a reasonable time thereafter, may request the Enterprises Division of the Court of Appeal in Amsterdam to order an inquiry into the policy and the course of our

affairs by independent investigators. If such an inquiry is ordered and the investigators conclude that there has been mismanagement, the shareholders can request the Division to order certain measures such as a suspension or annulment of resolutions.

Dissolution and Liquidation

The General Meeting may resolve to dissolve QIAGEN. If QIAGEN is dissolved, the liquidation shall be carried out by the person designated for that purpose by the General Meeting, under the supervision of the Supervisory Board. The General Meeting shall upon the proposal of the Supervisory Board determine the remuneration payable to the liquidators and to the person responsible for supervising the liquidation.

During the liquidation process, the provisions of our Articles will remain applicable to the extent possible.

In the event of our dissolution and liquidation, the assets remaining after payment of all debts and liquidation expenses will be distributed among registered holders of Common Shares in proportion to the nominal value of their Common Shares, subject to liquidation preference rights of holders of Preference Shares and Financing Preference Shares, if any.

Restrictions on Transfer of Preference Shares

The Supervisory Board, upon application in writing, must approve each transfer of Preference Shares. If approval is refused, the Supervisory Board will designate prospective purchasers willing and able to purchase the shares, otherwise the transfer will be deemed approved.

Limitations in our Articles on Rights to Own Securities

Other than with respect to usufructuaries and pledgees who have no voting rights, our Articles do not impose limitations on rights to own our securities.

Provisions which May Defer or Prevent a Change in Control

The Option Agreement and our Articles could, under certain circumstances, prevent a third party from obtaining a majority of the voting control of our shares by issuing Preference Shares. Under the Option Agreement, SPAQ could acquire Preference Shares subject to the provisions referred to under "Preference Shares".

If SPAQ acquires the Preference Shares, the bidder may withdraw its bid or enter into negotiations with the Managing Board and/or Supervisory Board and agree on a higher bid price for our shares.

Shareholders who obtain control of a company are obliged to make a mandatory offer to all other shareholders. The threshold for a mandatory offer is set at the ability to exercise 30% of the voting rights at the general meeting of shareholders in a Dutch public limited company (*naamloze vennootschap*) whose securities are admitted to trading on a regulated market in the EU, such as QIAGEN.

Ownership Threshold Requiring Disclosure

Our Articles do not provide an ownership threshold above which ownership must be disclosed. However, there are statutory requirements to disclose share ownership above certain thresholds under Dutch law-see "Obligation of Shareholders to Disclose Major Holdings".

Exchange Controls

There are currently no limitations either under the laws of The Netherlands or in our Articles, to the rights of shareholders from outside The Netherlands to hold or vote Common Shares. Under current foreign exchange regulations in The Netherlands, there are no material limitations on the amount of cash payments that we may remit to residents of foreign countries.

Obligation of Shareholders to Disclose Major Holdings

Holders of our shares or rights to acquire shares (which include options and convertible bonds - see also below) may be subject to notification obligations under the Dutch Financial Markets Supervision Act (FMSA).

Pursuant to the FMSA, any person who, directly or indirectly, acquires or disposes of an interest (including a potential interest, such as options and convertible bonds) in our issued share capital or voting rights must notify the Netherlands Authority for the Financial Markets (AFM) without delay, if as a result of such acquisition or disposal, the percentage of capital interest or voting rights held by such person in QIAGEN reaches, exceeds or falls below any of the following thresholds: 3%, 5%, 10%, 15%, 20%, 25%, 30%, 40%, 50%, 60%, 75% and 95%. The notifications should be made electronically through the notification system of the AFM.

A notification requirement also applies if a person's capital interest or voting rights reaches, exceeds or falls below the above-mentioned thresholds as a result of a change in our total issued share capital or voting rights. Such notification has to be made no later than the fourth trading day after the AFM has published our notification as described below.

Under the FMSA, we are required to notify the AFM without delay of the changes to our total issued share capital or voting rights if our issued share capital or voting rights changes by 1% or more since our previous notification. We must furthermore quarterly notify the AFM within eight days after the end of the relevant quarter, in the event our issued share capital or voting rights changed by less than 1% in that relevant quarter since our previous notification.

Furthermore, each person who is or ought to be aware that, as a result of the exchange of certain financial instruments, such as options for shares, his actual capital or voting interest in QIAGEN, reaches, exceeds or falls below any of the following thresholds: 3%, 5%, 10%, 15%, 20%, 25%, 30%, 40%, 50%, 60%, 75% and 95%, vis-à-vis his most recent notification to the AFM, must give notice to the AFM no later than the fourth trading day after he became or ought to be aware of this change.

Controlled entities, within the meaning of the FMSA, do not have notification obligations under the FMSA, as their direct and indirect interests are attributed to their (ultimate) parent. Any person may qualify as a parent for purposes of the FMSA, including an individual. A person who has a 3% or larger interest in our share capital or voting rights and who ceases to be a controlled entity for these purposes must notify the AFM without delay. As of the date of that notification, all notification obligations under the FMSA will become applicable to that entity.

For the purpose of calculating the percentage of capital interest or voting rights, the following interests must, *inter alia*, be taken into account: (i) our shares or voting rights on our shares directly held (or acquired or disposed of) by a person, (ii) our shares or voting rights on our shares held (or acquired or disposed of) by such person's controlled entity or by a third party for such person's account or by a third party with whom such person has concluded an oral or written voting agreement (including a discretionary power of attorney), and (iii) our shares or voting rights on our shares which such person, or any subsidiary or third party referred to above, may acquire pursuant to any option or other right held by such person (or acquired or disposed of, including, but not limited to, on the basis of convertible bonds). Special rules apply with respect to the attribution of our shares or voting rights on our shares which are part of the property of a partnership or other community of property. A holder of a pledge or right of usufruct (*vruchtgebruik*) in respect of our shares can also be subject to the notification obligations of the FMSA, if such person has, or can acquire, the right to vote on our shares or, in the case of depository receipts, our underlying shares. The acquisition of (conditional) voting rights by a pledgee or usufructuary may also trigger the notification obligations as if the pledgee or beneficial owner were the legal holder of our shares or voting rights on our shares. A holding in certain cash settled derivatives (such as cash settled call options and total equity return swaps) referencing to our shares should also be taken into account for the purpose of calculating the percentage of capital interest.

Gross short positions in our shares must also be notified to the AFM. For these gross short positions, the same thresholds apply as for notifying an actual or potential interest in our issued share capital and/or voting rights as referred to above, and without any set-off against long positions.

In addition, pursuant to Regulation (EU) No 236/2012, each person holding a net short position amounting to 0.2% of our issued share capital is required to report such position to the AFM. Each subsequent increase of this position by 0.1% above 0.2% will also need to be reported. Each net short position equal to 0.5% of our issued share capital and any subsequent increase of that position by 0.1% will be made public via the AFM short selling register. To calculate whether a natural person or legal person has a net short position, their short positions and long positions must be set-off. A short transaction in a share can only be contracted if a reasonable case can be made that the shares sold can actually be delivered, which requires confirmation of a third party that the shares have been located.

The AFM does not issue separate public announcements of the above notifications. However, it does keep a public register of all notifications made pursuant to the above disclosure obligations under the FMSA on its website www.afm.nl. Third parties can request to be notified automatically by e-mail of changes to the public register in relation to a particular company's shares or a particular notifying party.

Non-compliance with the notification obligations under the FMSA may lead to criminal fines, administrative fines, imprisonment or other sanctions. In addition, non-compliance with the shareholding disclosure obligations under the FMSA may lead to civil sanctions, including suspension of the voting rights relating to our shares held by the offender for a period of not more than three years and a prohibition applicable to the offender to acquire any of our shares or voting rights on our shares for a period of up to five years.

Management Notifications

Pursuant to the FMSA, each Managing Director and each Supervisory Director must notify the AFM: (a) within two weeks after his or her appointment of the number of our shares or rights to acquire shares he or she holds and the number of votes he or she is entitled to cast in respect of our issued share capital, and (b) subsequently, each change in the number of our shares or rights to acquire shares such member holds and of each change in the number of votes he or she is entitled to cast in respect of our issued share capital, immediately after the relevant change. If a Managing Director or Supervisory Director has notified a change in shareholding to the AFM under the FMSA as described above under "Obligation of Shareholders to Disclose Major Holdings", such notification is sufficient for the purposes as described in this paragraph.

Furthermore, pursuant to European Union Regulation (EU) No 596/2014 (the Market Abuse Regulation) and the regulations promulgated thereunder, any Managing Director and Supervisory Director, as well as any other person discharging managerial responsibilities in respect of QIAGEN who has regular access to inside information relating directly or indirectly to QIAGEN and power to take managerial decisions affecting future developments and business prospects of QIAGEN, must notify the AFM and QIAGEN by means of a standard form of any transactions conducted for his or her own account relating to the shares or debt instruments of QIAGEN or to derivatives or other financial instruments linked thereto.

In addition, pursuant to the Market Abuse Regulation, certain persons who are closely associated with Managing Directors and Supervisory Directors or any of the other persons as described above, are required to notify the AFM and QIAGEN of any transactions conducted for their own account relating to the shares or debt instruments of QIAGEN or to derivatives or other financial instruments linked thereto. The Market Abuse Regulation covers, *inter alia*, the following categories of persons: (i) the spouse or any partner considered by national law as equivalent to the spouse; (ii) dependent children; (iii) other relatives who have shared the same household for at least one year at the relevant transaction date; and (iv) any legal person, trust or partnership whose, among other things, managerial responsibilities are discharged by a person referred to under (i) to (iii) above or by the relevant Managing Directors and Supervisory Directors or other person discharging the managerial responsibilities in respect of QIAGEN as described above.

The notifications pursuant to the Market Abuse Regulation described above must be made to the AFM no later than the third business day following the relevant transaction date. Under certain circumstances, these notifications may be postponed until all transactions within a calendar year have reached a total amount of €5,000 (calculated without netting). Any subsequent transaction must be notified as set forth above. If a Managing Director or Supervisory Director has notified a change in the number of our shares or options to acquire shares such member holds or a change in the number of votes he or she is entitled to cast to the AFM under the FMSA as described in the first paragraph above, such notification - but only to the extent there is an overlap with the notifications obligations under the Market Abuse Regulation - is sufficient for the purposes of the Market Abuse Regulation as described in this paragraph.

Taxation

The following is a general summary of certain material United States federal income tax consequences to holders of our Common Shares who are “U.S. Holders” (as such term is defined below) and certain material Netherlands tax consequences to holders of our Common Shares who are “non-resident Shareholders” or “Shareholders” (as each term is defined below). This summary does not discuss every aspect of such taxation that may be relevant to such holders. Therefore, all prospective purchasers of our Common Shares described above are advised to consult their own tax advisors with respect to the United States federal, state and local tax consequences, as well as The Netherlands tax consequences, of the ownership of our Common Shares. This summary is based upon the advice of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. with respect to tax consequences for U.S. Holders under United States law and Ernst & Young Belastingadviseurs LLP with respect to tax consequences for non-resident Shareholders or Shareholders under Netherlands law.

The statements of The Netherlands and United States tax laws set out below are based on the laws in force as of the date of this Annual Report on Form 20-F, and as a consequence are subject to any changes in United States or The Netherlands law, or in the taxation conventions concluded by the United States and The Netherlands, occurring after such date.

Netherlands Tax Considerations

The following describes the material tax consequences under Netherlands law of an investment in our Common Shares. Such description is based on current understanding of Netherlands tax law currently in force as interpreted under officially published case law and in published policy, and is limited to the tax implications for an owner of our Common Shares who is not, or is not deemed to be, a resident of The Netherlands for purposes of the relevant tax laws (a “non-resident Shareholder” or “Shareholder”).

Dividend Withholding Tax

General. Upon distribution of dividends, we are obligated to withhold 15% dividend tax at source and to pay the amount withheld to The Netherlands tax authorities. The term “dividends” means income from shares or other rights participating in profits, as well as income from other corporate rights that is subjected to the same taxation treatment as income from shares by the laws of The Netherlands. Dividends include dividends in cash or in kind, constructive dividends, certain repayments of capital qualified as dividends, interest on loans that are treated as equity instruments for Netherlands corporate income tax purposes and liquidation proceeds in excess of, for Netherlands tax purposes, recognized paid-in capital. Stock dividends are also subject to withholding tax, unless derived from our paid-in share premium that is recognized as equity for Netherlands tax purposes.

No withholding tax should apply on the proceeds resulting from the sale or disposition of our Common Shares to persons other than QIAGEN and our affiliates. A disposition of our Common Shares to QIAGEN or to our affiliates should in general be subject to withholding tax.

A domestic exemption from Netherlands withholding tax may apply when dividends are paid to a corporate Shareholder that own 5% or more of our Common Shares and qualifying as beneficial owner and is solely resident in an EU/EEA Member State or in a country with which The Netherlands has concluded a tax convention that includes a dividend article. This general exemption does not apply to abusive structures. A structure is deemed abusive if a corporate Shareholder owns our Common Shares with the main purpose or one of the main purposes to avoid tax for another person and the structure is considered artificial (i.e. not put into place for valid commercial reasons that reflect economic reality). This domestic exemption may under conditions further not apply in case of hybrid mismatches.

A corporate Shareholder may also be eligible for a reduction or a refund of Netherlands dividend withholding tax under Netherlands tax law, or under a tax convention that is in force between the country of residence of the Shareholder and The Netherlands.

Specific for U.S. Shareholders. The regular 15% withholding tax is withheld by us on dividends we pay to a resident of the United States. For a corporate U.S. Shareholder that cannot apply the Dutch domestic exemption (as explained above), withholding tax on dividends may still be reduced to 5% or 0% if the recipient is entitled to benefits under the Tax Convention between The Netherlands and the United States (the “Convention”), and the relevant specific conditions are met. Dividends we pay to U.S. pension funds and U.S. tax-exempt organizations may be eligible for an exemption from dividend withholding tax under the Convention.

Dividend Stripping. A refund, reduction, exemption, or credit of Netherlands dividend withholding tax on the basis of Netherlands tax law or on the basis of a tax treaty between The Netherlands and another state, will only be granted if the dividends are paid to the beneficial owner (“uiteindelijk gerechtigde”) of the dividends. A recipient of a dividend is amongst others not considered to be the beneficial owner of a dividend in an event of “dividend stripping”. In general terms, “dividend stripping” can be described as the situation in which a foreign or domestic person (usually, but not necessarily, the original shareholder) has transferred in return for a consideration his shares or his entitlement to the dividend distributions to a party that has a more favorable right to a refund or reduction of Netherlands dividend withholding tax than the foreign or domestic person. In these situations, the foreign or domestic person (usually the original shareholder) avoids Netherlands dividend withholding tax while retaining an interest in the shares and the dividend distributions, by transferring his shares or his entitlement to the dividend distributions in exchange for a consideration.

Income Tax and Corporate Income Tax

General. A non-resident Shareholder will not be subject to Netherlands income tax or corporate income tax with respect to dividends we distribute on our Common Shares or with respect to capital gains derived from the sale or disposition of our Common Shares, provided that:

- a. the non-resident Shareholder does not carry on or have an interest in a business in The Netherlands through a permanent establishment or a permanent representative to which or to whom the Common Shares are attributable or deemed to be attributable;
- b. the non-resident Shareholder does not have a direct or indirect substantial or deemed substantial interest (“aanmerkelijk belang,” as defined in The Netherlands tax law) in our share capital or, in the event the Shareholder does have such a substantial interest, such interest is a “business asset”, or, in case of a corporate Shareholder, the arrangement or a series of arrangements are not put in place with the main purpose or one of the main purposes to avoid Netherlands income tax for another person or cannot be considered artificial. An arrangement or series of arrangements are considered artificial to the extent not put in place for valid commercial reasons that reflect economic reality; and
- c. the non-resident Shareholder is not entitled to a share in the profits of an enterprise, to which our Common Shares are attributable and that is effectively managed in The Netherlands, other than by way of securities or through an employment contract.

In general terms, a substantial interest (“aanmerkelijk belang”) in our share capital does not exist if the Shareholder (individuals as well as corporations), alone or together with his partner, does not own, directly or indirectly, 5% or more of the nominal paid-in capital of, or any class of our shares, does not have the right to acquire 5% or more of the nominal paid-in capital of, or any class of our shares (including a call option) and does not have the right to share in our profit or liquidation revenue amounting to 5% or more of the annual profits or liquidation revenue.

There is no all-encompassing definition of the term “business asset”; whether this determination can be made in general depends on the facts presented and in particular on the activities performed by the Shareholder. If the Shareholder materially conducts a business activity, while the key interest of his investment in our Shares will not be his earnings out of the investment in our Shares but our economic activity, an investment in our Shares will generally be deemed to constitute a business asset, in particular if the Shareholder’s involvement in our business will exceed regular monitoring of his investment in our Shares. A non-resident Shareholder that holds a substantial interest in our share capital may be eligible for an exemption or a reduction of Netherlands income tax or corporate income tax under a tax convention.

Specific for U.S. Shareholders

U.S. Shareholders that do not own a substantial interest should not be subject to Dutch Personal Income Tax or Dutch Corporate Income Tax. For U.S. Shareholders that do own a substantial interest, Dutch Personal Income Tax or Dutch Corporate Income Tax could be due. However, U.S. Shareholders that are entitled to benefits of the Convention may be eligible for a tax reduction.

Gift and Inheritance Tax

A gift or inheritance of our Common Shares from a non-resident Shareholder should generally not be subject to a Netherlands gift and inheritance tax, provided that the Shareholder is not considered a (deemed) resident of The Netherlands. The Netherlands has concluded a tax convention with the United States based on which double taxation on inheritances may be avoided if the inheritance is subject to Netherlands and/or U.S. inheritance tax and the deceased was a resident of either The Netherlands or the United States.

United States Federal Income Tax Considerations

The following summary describes certain U.S. federal income tax considerations generally applicable to U.S. Holders (as defined below) of our Common Shares. This summary deals only with our Common Shares held as capital assets within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code" or the "Code"). This summary also does not address the tax consequences that may be relevant to holders in special tax situations including, without limitation, dealers in securities; traders that elect to use a mark-to-market method of accounting; pass-through entities such as partnerships, S corporations, disregarded entities for federal income tax purposes and limited liability companies (and investors therein); holders that own our Common Shares as part of a "straddle," "hedge," "conversion transaction," or other integrated investment; banks or other financial institutions; individual retirement accounts and other tax-deferred accounts; insurance companies; tax-exempt organizations; U.S. expatriates; holders whose functional currency is not the U.S. dollar; holders subject to the alternative minimum tax; holders that acquired our Common Shares in a compensatory transaction; holders subject to special tax accounting rules as a result of any item of gross income with respect to the Common Shares being taken into account in an applicable financial statement; or holders that actually or constructively own 10% or more of the total voting power or value of our Common Shares.

This summary is based upon the Code, applicable U.S. Treasury regulations, administrative pronouncements and judicial decisions, in each case as in effect on the date hereof, all of which are subject to change (possibly with retroactive effect). No ruling will be requested from the Internal Revenue Service (the "IRS") regarding the tax consequences of the initial listing, and there can be no assurance that the IRS will agree with the discussion set out below. This summary does not address any consequences other than U.S. federal income tax consequences (such as the estate and gift tax or the Medicare tax on net investment income).

As used herein, the term "U.S. Holder" means a beneficial owner of our Common Shares that is, for U.S. federal income tax purposes, (i) a citizen or resident of the United States, (ii) a corporation or other entity taxable as a corporation created or organized under the laws of the United States or any state thereof or therein or the District of Columbia, (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source, or (iv) a trust (a) that is subject to the supervision of a court within the United States and the control of one or more United States persons as described in Code Section 7701(a)(30), or (b) that has a valid election in effect under applicable U.S. Treasury regulations to be treated as a United States person.

If an entity or other arrangement treated as a partnership for U.S. federal income tax purposes acquires our Common Shares, the tax treatment of a partner in the partnership generally will depend upon the status of the partner and the activities of the partnership. Partners of a partnership considering an investment in our Common Shares should consult their tax advisers regarding the U.S. federal income tax consequences of acquiring, owning, and disposing our Common Shares.

Taxation of Dividends

Subject to the discussion below under "Passive Foreign Investment Company Status," the sum of any cash plus the fair market value of any property that we distribute (before reduction for Netherlands withholding tax) to a U.S. Holder with respect to our Common Shares generally will be included in the U.S. Holder's gross income as a dividend, taxable as ordinary income from foreign sources to the extent of our current or accumulated earnings and profits (as determined for U.S. federal income tax purposes).

Dividends paid to a non-corporate U.S. Holder by a "qualified foreign corporation" may be subject to a reduced rate of tax if certain conditions are met including the following: QIAGEN must not be classified as a "passive foreign investment company" ("PFIC") (discussed below), QIAGEN must be a "qualified foreign corporation" (as defined below), the U.S. Holder must satisfy a holding period requirement, and the distribution must not be treated to the U.S. Holder as "investment income" for purposes of the investment interest deduction rules. A "Qualified foreign corporation" generally includes a foreign corporation (other than a foreign corporation that is a PFIC with respect to the relevant U.S. Holder for the taxable year in

which the dividends are paid or for the preceding taxable year) (i) whose Common Shares are readily tradable on an established securities market in the United States, or (ii) which is eligible for benefits under a comprehensive U.S. income tax treaty that includes an exchange of information program and which the U.S. Treasury Department has determined is satisfactory for these purposes. Our Common Shares are expected to be readily tradable on the NYSE, an established securities market. U.S. Holders should consult their own tax advisors regarding the availability of the reduced tax rate on dividends in light of their particular circumstances. Dividends on our Common Shares will not be eligible for the dividends received deduction available to corporations in respect of dividends received from other U.S. corporations.

Distributions in excess of our earnings and profits (as determined for U.S. federal income tax purposes) will be treated as a non-taxable return of capital to the extent of the U.S. Holder's adjusted tax basis in our Common Shares and thereafter as capital gain. However, we do not intend to calculate our earnings and profits under U.S. federal income tax principles. Therefore, U.S. Holders should expect that a distribution will generally be treated as a dividend even if that distribution would otherwise be treated as a non-taxable return of capital or as capital gain under the rules described above.

Foreign Tax Credit

Subject to the PFIC rules discussed below, a U.S. Holder that is subject to Netherlands withholding tax with respect to dividends paid on the Common Shares generally will be entitled, at the election of such U.S. Holder, to receive either a deduction or a credit for such Netherlands withholding tax. Generally, subject to the limitations described in the next paragraph, a credit will reduce a U.S. Holder's U.S. federal income tax liability on a dollar-for-dollar basis, whereas a deduction will reduce a U.S. Holder's income subject to U.S. federal income tax. This election is made on a year-by-year basis and generally applies to all foreign taxes paid (whether directly or through withholding) or accrued by a U.S. Holder during a year.

Limitations apply to the foreign tax credit, including the general limitation that the credit cannot exceed the proportionate share of a U.S. Holder's U.S. federal income tax liability (determined before application of the foreign tax credit) that such U.S. Holder's "foreign source" taxable income bears to such U.S. Holder's worldwide taxable income. In applying this limitation, a U.S. Holder's various items of income and deduction must be classified, under complex rules, as either "foreign source" or "U.S. source" and the limitation is calculated separately for each with respect to specific categories of income. Generally, dividends paid by a foreign corporation should be treated as foreign source for this purpose, and gains recognized on the sale of stock of a foreign corporation by a U.S. Holder should generally be treated as U.S. source for this purpose, except as otherwise provided in an applicable income tax treaty or if an election is properly made under the Code. However, the amount of a distribution with respect to the common shares that is treated as a "dividend" may be lower for U.S. federal income tax purposes than it is for Netherlands tax purposes, resulting in a reduced foreign tax credit allowance to a U.S. Holder.

Each U.S. Holder should consult its own U.S. tax advisor regarding the foreign tax credit rules.

Disposition of our Common Shares

Subject to the PFIC rules discussed below, upon the sale or other disposition of our Common Shares, a U.S. Holder will recognize capital gain or loss for U.S. federal income tax purposes equal to the difference between the amount realized on the disposition of our Common Shares and the U.S. Holder's adjusted tax basis in our Common Shares. Such capital gain or loss generally will be subject to U.S. federal income tax. In general, capital gains recognized by a non-corporate U.S. Holder, including an individual, are subject to a lower rate under current law if such U.S. Holder held shares for more than one year. The deductibility of capital losses is subject to limitations. Any such gain or loss generally will be treated as U.S. source income or loss for purposes of the foreign tax credit. A U.S. Holder's initial tax basis in Common Shares generally will equal the cost of such shares.

Passive Foreign Investment Company Status

We may be classified as a PFIC for U.S. federal income tax purposes if certain tests are met. We will be a PFIC with respect to a U.S. Holder if, for any taxable year in which the U.S. Holder held our Common Shares, either (i) 75% or more of our gross income for the taxable year is passive income; or (ii) the average value of our assets (during the taxable year) which produce or are held for the production of passive income is at least 50% of the average value of all assets for such year. Passive income means, in general, dividends, interest, royalties, rents (other than rents and royalties derived in the active conduct of a trade or business and not derived from a related person), annuities, and gains from assets which would produce such income other than sales of inventory. Passive assets for this purpose generally includes assets held for the production of passive income.

Accordingly, passive assets generally include any cash, cash equivalents and cash invested in short-term, interest-bearing debt instruments or bank deposits that are readily convertible into cash. For the purpose of the PFIC tests, if a foreign corporation owns at least 25% (by value) of the stock of another corporation, the foreign corporation is treated as owning its proportionate share of the assets of the other corporation, and as if it had received directly its proportionate share of the income of such other corporation (the "look-through rule"). The effect of the look-through rule with respect to QIAGEN and our ownership of our subsidiaries is that, for purposes of the income and assets tests described above, we will be treated as owning our proportionate share of the assets of our subsidiaries and of earning our proportionate share of each of our subsidiary's income, if any, so long as we own, directly or indirectly, at least 25% of the value of the particular subsidiary's stock. Active business income of our

subsidiaries will be treated as our active business income, rather than as passive income. Based on our income, assets and activities, we do not believe that we were a PFIC for our taxable years ended December 31, 2018, December 31, 2019, and December 31, 2020, and do not expect to be a PFIC for the current taxable year. No assurances can be made, however, that the IRS will not challenge this position or that we will not subsequently become a PFIC. Following the close of any tax year, we intend to promptly send a notice to all shareholders of record at any time during such year, if we determine that we are a PFIC.

If we are considered a PFIC for any taxable year that a U.S. Holder holds our Common Shares, any gain recognized by the U.S. Holder on a sale or other disposition of our Common Shares would be allocated pro-rata over the U.S. Holder's holding period for our Common Shares. The amounts allocated to the taxable year of the sale or other disposition and to any year before we became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as appropriate, for that taxable year, and an interest charge would be imposed with respect to any amount allocated to any prior taxable year that we were a PFIC. Further, if we are a PFIC for any taxable year, to the extent that any distribution received by a U.S. Holder on our Common Shares exceeds 125% of the average of the annual distributions on our Common Shares received during the preceding three years or the U.S. Holder's holding period, whichever is shorter, such excess amount would be subject to taxation in the same manner as gain on the sale or other disposition of Common Shares if we were a PFIC, described above. Certain elections may be available that would result in alternative treatments (such as mark-to-market treatment) of our Common Shares. If we are treated as a PFIC with respect to a U.S. Holder for any taxable year, the U.S. Holder will be deemed to own shares in any of our subsidiaries that also are PFICs. A timely election to treat us as a qualified electing fund under the Code would result in an alternative treatment. However, we do not intend to prepare or provide the information that would enable U.S. Holders to make a qualified electing fund election. If we are considered a PFIC, a U.S. Holder also will be subject to annual information reporting requirements.

Prospective purchasers of our Common Shares are urged to consult their tax advisors regarding the potential application of the PFIC rules to an investment in the Common Shares.

Foreign Currency Issues

If dividends on our Common Shares are paid in euros, the amount of the dividend distribution included in the income of a U.S. Holder will be the U.S. dollar value of the payments made in euros, determined at a spot, euro/U.S. dollar rate applicable to the date such dividend is includable in the income of the U.S. Holder, regardless of whether the payment is in fact converted into U.S. dollars. Generally, gain or loss (if any) resulting from currency exchange fluctuations during the period from the date the dividend is paid to the date such payment is converted into U.S. dollars will be treated as ordinary income or loss.

Backup Withholding and Information Reporting

U.S. backup withholding and information reporting requirements generally apply to payments made to non-corporate holders of Common Shares that are paid within the United States or through certain U.S. related financial intermediaries. Information reporting will apply to payments of dividends on, and to proceeds from the disposition of, Common Shares by a paying agent within the United States (or through certain U.S. related financial intermediaries) to a U.S. Holder, other than U.S. Holders that are exempt from information reporting and properly certify their exemption. A paying agent within the United States (or through certain U.S. related financial intermediaries) will be required to withhold at the applicable statutory rate, currently 24%, in respect of any payments of dividends on, and the proceeds from the disposition of, Common Shares to a U.S. Holder (other than U.S. Holders that are exempt from backup withholding and properly certify their exemption) if the holder fails to furnish its correct taxpayer identification number or otherwise fails to comply with applicable backup withholding requirements. U.S. Holders who are required to establish their exempt status generally must provide a properly completed IRS Form W-9.

Backup withholding is not an additional tax. Amounts withheld as backup withholding may be credited against a U.S. Holder's U.S. federal income tax liability. A U.S. Holder generally may obtain a refund of any amounts withheld under the backup withholding rules that exceed such U.S. Holder's income tax liability by filing a refund claim with the IRS in a timely manner and furnishing required information.

Foreign Financial Asset Reporting

Certain U.S. Holders who hold "specified foreign financial assets" (as defined in section 6038D of the Code), including stock of a non-U.S. corporation that is not held in an account maintained by a U.S. "financial institution" (as defined in section 6038D of the Code), whose aggregate value exceeds \$50,000 on the last day of the taxable year or \$75,000 at any time during the tax year, may be required to attach to their tax returns for the year certain specified information (on IRS Form 8938) (higher thresholds apply to married individuals filing a joint return and certain individuals residing outside of the United States).

Persons who fail to timely furnish the required information may be subject to substantial penalties. Additionally, in the event a U.S. Holder does not file such a report, the statute of limitations on the assessment and collection of U.S. federal income taxes of such U.S. Holder for the related tax year may not close before such report is filed. U.S. Holders (including entities) should consult their own tax advisors regarding their reporting obligations and the possible application of such reporting obligations to the holding of Common Shares.

Documents on Display

Documents referred to in this Annual Report may be inspected at our principal executive office located at Hulsterweg 82, 5912 PL Venlo, The Netherlands.

Item 11. Quantitative and Qualitative Disclosures About Market Risk

Our market risk relates primarily to interest rate exposures on cash, short-term investments and borrowings and foreign currency exposures. Financial risk is centrally managed and is regulated by internal guidelines which require a continuous internal risk analysis. The overall objective of our risk management is to reduce the potential negative earnings effects from changes in interest and foreign exchange rates. Exposures are managed through operational methods and financial instruments relating to interest rate and foreign exchange risks. 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 rates. 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 other speculative purposes. All derivatives are recognized as either assets or liabilities in the balance sheet and are measured at fair value with any change in fair value recognized 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 the extent that the derivatives are not covered by collateral agreements with the respective counterparties.

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.

Further details of our derivative and hedging activities can be found in Note 14 "Derivatives and Hedging" to the accompanying consolidated financial statements.

Interest Rate Risk

At December 31, 2020, we had \$598.0 million in cash and cash equivalents as well as \$117.2 million in short-term investments. Interest income earned on our cash investments is affected by changes in the relative levels of market interest rates. We only invest in high-grade investment instruments. A hypothetical adverse 10% movement in market interest rates would not have materially impacted our financial statements.

Borrowings against lines of credit are at variable interest rates. We had no amounts outstanding against our lines of credit at December 31, 2020. A hypothetical adverse 10% movement in market interest rates would not have materially impacted our financial statements.

At December 31, 2020, we had \$1.9 billion in long-term debt. Through the use of interest rate derivatives we have swapped \$127.0 million of our fixed rate debt into a variable interest rate based on the 3-months LIBOR. A hypothetical adverse 10% movement in market interest rates would not have materially impacted our financial statements, as the increased interest expense would have been off-set by increased interest income from our variable rate financial assets.

Foreign Currency Exchange Rate Risk

As a global enterprise, we are subject to risks associated with fluctuations in foreign currencies with regard to our ordinary operations. This includes foreign currency-denominated receivables, payables, debt, and other balance sheet positions as well as future cash flows resulting from anticipated transactions including intra-group transactions.

A significant portion of our revenues and expenses are earned and incurred in currencies other than the U.S. dollar. The euro is the most significant such currency, with others including the British pound, Japanese yen, Chinese renminbi, Turkish lira, Brazilian real, Indian rupee, Swiss franc, and Canadian and Australian dollars. Fluctuations in the value of the currencies in which we conduct our business relative to the U.S. dollar have caused and will continue to cause U.S. dollar translations of such currencies to vary from one period to another. Due to the number of currencies involved, the constantly changing currency exposures, and the potential substantial volatility of currency exchange rates, we cannot predict the effect of exchange rate fluctuations upon future operating results. In general terms, depreciation of the U.S. dollar against our other foreign currencies will increase reported net sales. However, this effect is, at least partially, offset by the fact that we also incur substantial expenses in foreign currencies.

We have significant production and manufacturing facilities located in Germany and intercompany sales of inventory also expose us to foreign currency exchange rate risk. Intercompany sales of inventory are generally denominated in the local currency of the subsidiary purchasing the inventory in order to centralize foreign currency risk with the manufacturing subsidiary. We use an in-house bank approach to net and settle intercompany payables and receivables as well as intercompany foreign exchanged swaps and forward contracts in order to centralize the foreign exchange rate risk to the extent possible. We have entered in the past and may enter in the future into foreign exchange derivatives including forwards, swaps and options to manage the remaining foreign exchange exposure.

Item 12. Description of Securities Other than Equity Securities

Not applicable.

PART II

Item 13. Defaults, Dividend Arrearages and Delinquencies

Not applicable.

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

Not applicable.

Item 15. Controls and Procedures

Disclosure Controls and Procedures

Our Managing Director, with the assistance of other members of management, performed an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as that term is defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended, within 90 days of the date of this report. Based on that evaluation, they concluded that as of December 31, 2020, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our Managing Directors, as appropriate to allow timely decisions regarding required disclosure.

There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, no matter how well designed, such as the possibility of human error and the circumvention or overriding of the controls and procedures. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance of achieving their control objectives. In addition, any determination of effectiveness of controls is not a projection of any effectiveness of those controls to future periods, as those controls may become inadequate because of changes in conditions or the degree of compliance with the policies or procedures may deteriorate.

Report of Management on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. The Company's system of internal controls over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements and even when determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2020. In making this assessment, management used the updated criteria set forth in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework.

Based on our assessment under the COSO Internal Control-Integrated Framework, management believes that, as of December 31, 2020, our internal control over financial reporting is effective. Management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of NeuMoDx Molecular, Inc., which is included in the 2020 consolidated financial statements of QIAGEN N.V. and Subsidiaries and constituted 6.31% of total assets as of December 31, 2020 and 0.53% of revenues for the year then ended. Securities and Exchange Commission guidelines permit companies to exclude acquisitions from their assessment of internal control over financial reporting during the first year following an acquisition.

Attestation Report of the Independent Registered Public Accounting Firm

KPMG AG Wirtschaftsprüfungsgesellschaft, the independent registered public accounting firm that audited our consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP) as of and for the year ended December 31, 2020, has also audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2020. Their report is included in this Annual Report on Form 20-F on page F-2.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting during 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 16A. Audit Committee Financial Expert

The Supervisory Board has designated Mr. Lawrence Rosen as an “audit committee financial expert” as that term is defined in the SEC rules adopted pursuant to the Sarbanes-Oxley Act. Mr. Rosen is “independent” as defined under the independence standards set forth in the New York Stock Exchange (NYSE) Listed Company Manual as applicable to Audit Committees.

Item 16B. Code of Ethics

QIAGEN has in place a Code of Conduct which qualifies as a code of ethics, as required by SEC and the New York Stock Exchange (NYSE) Listed Company Manual. The Code of Conduct applies to all of QIAGEN’s employees, including our principal executive officer, principal financial officer, principal accounting officer or controller and other persons performing similar functions. The full text of the Code of Conduct is available on our website at www.qiagen.com.

Item 16C. Principal Accountant Fees and Services

Audit Committee Pre-Approval Policies and Procedures

The Audit Committee has adopted a policy that requires the pre-approval of all services performed for us by our independent registered public accounting firm. Additionally, the Audit Committee has delegated to the Committee Chairman full authority to approve any management request for pre-approval, provided the Chairman presents any approval given at its next scheduled meeting. All audit-related services, tax services and other services rendered by our independent registered public accounting firm or their affiliates were pre-approved by the Audit Committee and are compatible with maintaining the auditor’s independence.

Set forth below are the total fees billed (or expected to be billed), on a consolidated basis, by the independent registered public accounting firm or their affiliates for providing audit and other professional services in each of the last two years:

(in millions)	2020	2019
Audit fees	\$ 2.9	\$ 2.5
- <i>Consolidated financial statements</i>	2.3	1.8
- <i>Statutory financial statements</i>	0.6	0.7
Audit-related fees	0.1	0.2
Tax and other fees	—	—
Total	\$ 3.0	\$ 2.7

Audit fees consist of fees and expenses billed for the annual audit and quarterly review of QIAGEN’s consolidated financial statements. They also include fees billed for other audit services, which are those services that only the statutory auditor can provide, and include the review of documents filed with the Securities Exchange Commission. In 2020, audit fees include fees related to the acquisition of NeuMoDx Molecular, Inc. and capital market transactions.

Audit-related fees consist of fees and expenses billed for assurance and related services that are related to the performance of the audit or review of QIAGEN’s financial statements and include consultations concerning financial accounting and reporting standards and review of the opening balance sheets of newly acquired companies.

Tax fees include fees and expenses billed for tax compliance services, including assistance on the preparation of tax returns and claims for refund; tax consultations, such as assistance and representation in connection with tax audits and appeals. All other fees include various fees and expenses billed for services as approved by the Audit Committee and as permitted by the Sarbanes-Oxley Act of 2002.

Item 16D. Exemptions From the Listing Standards for Audit Committees

Not applicable.

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The following table sets out information concerning repurchases of our common shares, which we intend to use to serve our exchangeable debt instruments and employee share-based remuneration plans.

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

Period	(a) Total number of shares purchased	(b) Average price paid per share in \$(¹)	(c) Total number of shares purchased as part of publicly announced plans and programs	(d) Approximate dollar value of shares that may yet be purchased under these plans and programs (in \$ millions) ⁽²⁾
November 1-30, 2020	965,255	\$46.76	965,255	\$54.9
December 1-31, 2020	380,646	\$49.54	380,646	\$—
Total	1,345,901	\$47.55	1,345,901	

⁽¹⁾The average price paid per share of stock repurchased under the stock repurchase program includes the commissions paid to the brokers.

⁽²⁾The approximate value of shares that may yet be purchased under these plans and programs does not include commissions that may be paid to brokers in connection with such purchases.

Item 16F. Change in Registrant's Certifying Accountant

Not applicable.

Item 16G. Corporate Governance

We recognize the importance of clear and straightforward rules on corporate governance and, where appropriate, have adapted our internal organization and processes to these rules. This section provides an overview of QIAGEN's corporate governance structure and includes details of the information required under the Dutch Corporate Governance Code (the Dutch Code). The Dutch Code is applicable to QIAGEN N.V. (in the following also referred to as the "Company"), as it is a publicly listed company incorporated under the laws of The Netherlands with a registered seat in Venlo, The Netherlands. The Dutch Code contains the principles and concrete provisions which the persons involved in a listed company (including Managing Board members and Supervisory Board members) and stakeholders should observe in relation to one another.

Our corporate governance practices generally derive from the provisions of the Dutch Civil Code and the Dutch Corporate Governance Code. Further, due to our listing on the New York Stock Exchange in the U.S., the Managing Board and the Supervisory Board of QIAGEN N.V. declared their intention to disclose in QIAGEN's Annual Reports the Company's compliance with the corporate governance practices followed by U.S. companies under the New York Stock Exchange listing standards or state the deviations recorded in the period.

A brief summary of the principal differences follows.

Corporate Structure

QIAGEN is a 'Naamloze Vennootschap,' or N.V., a Dutch limited liability company similar to a corporation in the United States. QIAGEN has a two-tier board structure. QIAGEN is managed by a Managing Board consisting of executive management acting under the supervision of a Supervisory Board (non-executives), similar to a Board of Directors in a U.S. corporation. It is in the interest of QIAGEN and all its stakeholders that each Board performs its functions appropriately and that there is a clear division of responsibilities between the Managing Board, the Supervisory Board, the general meeting of shareholders (General Meeting) and the external auditor in a well-functioning system of checks and balances.

Managing Board

General

The Managing Board manages QIAGEN and is responsible for defining and achieving QIAGEN's aims, strategy, policies and results. The Managing Board is also responsible for complying with all relevant legislation and regulations as well as for managing the risks associated with the business activities and the financing of QIAGEN. It reports related developments to and discusses the internal risk management and control systems with the Supervisory Board and the Audit Committee. The Managing Board is accountable for the performance of its duties to the Supervisory Board and the General Meeting of Shareholders (General Meeting). The Managing Board provides the Supervisory Board with timely information necessary for the exercise of the duties of the Supervisory Board. In discharging its duties, the Managing Board takes into account the interests of QIAGEN, its enterprises and all parties involved in QIAGEN, including shareholders and other stakeholders.

Composition and Appointment

The Managing Board consists of one or more members as determined by the Supervisory Board. The members of the Managing Board are appointed by the General Meeting upon the joint meeting of the Supervisory Board and the Managing Board (the

Joint Meeting) having made a binding nomination for each vacancy. However, the General Meeting may at all times overrule the binding nature of such a nomination by a resolution adopted by at least a two-thirds majority of the votes cast, if such majority represents more than half the issued share capital. Managing Directors are appointed annually for the period beginning on the date following the Annual General Meeting up to and including the date of the Annual General Meeting held in the following year.

Members of the Managing Board may be suspended and dismissed by the General Meeting by a resolution adopted by a two-thirds majority of the votes cast, if such majority represents more than half of the issued share capital, unless the proposal was made by the Joint Meeting, in which case a simple majority of votes cast is sufficient. Furthermore, the Supervisory Board may at any time suspend (but not dismiss) a member of the Managing Board.

Conflicts of Interest, Loans or Similar Benefits

Resolutions to enter into transactions under which members of the Managing Board could have a conflict of interest with QIAGEN, and which are of material significance to QIAGEN and/or the relevant member of the Managing Board, require the approval of the Supervisory Board. QIAGEN has not entered into any such transactions in 2020. No credit, loans or similar benefits were granted to members of the Managing Board. Additionally, the Managing Board Members did not receive any benefits from third parties that were either promised or granted in view of their position as members of the Managing Board.

Further information on our Managing Directors can be found in Item 6 of this Annual Report.

Supervisory Board

General

The Supervisory Board supervises the policies of the Managing Board, the general course of QIAGEN's affairs and strategy and the business enterprises which we operate. The Supervisory Board assists the Managing Board by providing advice relating to the business activities of QIAGEN. In 2020, the Supervisory Board had five regular meetings that were held with the attendance of the Managing Board, while certain agenda items were discussed exclusively between the Supervisory Board members. In discharging its duties, the Supervisory Board takes into account the interests of QIAGEN, its enterprise and all parties involved in QIAGEN, including shareholders and other stakeholders. The Supervisory Board is responsible for the quality of its own performance. In this respect, the Supervisory Board conducts a self-evaluation on an annual basis. Our Supervisory Board has specified matters requiring its approval, including decisions and actions which would fundamentally change the company's assets, financial position or results of operations. The Supervisory Board has appointed an Audit Committee, a Compensation Committee, a Selection and Appointment (Nomination) Committee and a Science and Technology Committee from among its members and can appoint other committees as deemed beneficial. The Supervisory Board has approved charters pursuant to which each of the committees operates.

Composition and Appointment

The Supervisory Board consists of at least three members, or a larger number as determined by the Joint Meeting. Members of the Supervisory Board are appointed by the General Meeting upon the Joint Meeting having made a binding nomination for each vacancy. However, the General Meeting may at all times overrule the binding nature of such a nomination by a resolution adopted by at least a two-thirds majority of the votes cast, if such majority represents more than half the issued share capital.

The Supervisory Board shall be composed in a way that enables it to carry out its duties properly and enables its members to act critically and independently of one another and of the Managing Board and any particular interests. To that effect, the Supervisory Board has adopted a profile of its size and composition that takes into account the nature of our business, our activities and the desired diversity, expertise and background of the members of the Supervisory Board. The current profile of the Supervisory Board can be found on our website. The Supervisory Board has appointed a chairman from its members who has the duties assigned to him by the Articles of Association and the Dutch Code.

Members of the Supervisory Board are appointed annually for the period beginning on the date following the General Meeting up to and including the date of the General Meeting held in the following year. Members of the Supervisory Board may be suspended and dismissed by the General Meeting by a resolution adopted by a two-thirds majority of the votes cast, if such majority represents more than half of the issued share capital, unless the proposal was made by the Joint Meeting in which case a simple majority of votes cast is sufficient.

Conflicts of Interest, Loans or Similar Benefits

Resolutions to enter into transactions under which members of the Supervisory Board could have a conflict of interest with QIAGEN, and which are of material significance to QIAGEN and/or the relevant member of the Supervisory Board, must be reported and require the approval of the Supervisory Board plenum. In 2020, neither QIAGEN nor its Supervisory Board members have entered into any such transactions. No credit, loans or similar benefits were granted to members of the

Supervisory Board. Additionally, the Supervisory Board Members did not receive any benefits from third parties that were either promised or granted in view of their position as members of the Supervisory Board.

Further information on our Supervisory Directors can be found in Item 6 of this Annual Report.

Additional Information

Shareholders

Our shareholders exercise their voting rights through Annual and Extraordinary General Meetings. Resolutions of the General Meeting are adopted by an absolute majority of votes cast, unless a different majority of votes or quorum is required by Dutch law or the Articles of Association. Each common share confers the right to cast one vote.

Furthermore, the Managing Board, or where appropriate, the Supervisory Board, shall provide all shareholders and other parties in the financial markets with equal and simultaneous information about matters that may influence QIAGEN's share price.

QIAGEN is required to convene an Annual General Meeting in The Netherlands no later than six months following the end of each year. The agenda for the Annual General Meeting must contain certain matters as specified in QIAGEN's Articles of Association and under Dutch law, including, among other things, the adoption of QIAGEN's annual financial statements.

Additional Extraordinary General Meetings may be convened at any time by the Managing Board, the Supervisory Board or by one or more shareholders jointly representing at least 40% of QIAGEN's issued share capital. Furthermore, one or more shareholders, who jointly represent at least 10% of QIAGEN's issued share capital may, on their application, be authorized by the district court judge having applications for interim relief, to convene a General Meeting. Shareholders are entitled to propose items for the agenda of the General Meeting provided that they hold at least 3% of the issued share capital. Proposals for agenda items for the General Meeting must be submitted at least 60 days prior to the meeting date. The notice convening a General Meeting, accompanied by the agenda, shall be sent no later than 42 days prior to the meeting. QIAGEN informs the General Meeting by means of explanatory notes to the agenda, providing all facts and circumstances relevant to the proposed resolutions.

Pursuant to the Dutch Code, all transactions between the company and legal or natural persons who hold at least ten percent of the shares in the company shall be agreed on terms that are customary in the sector concerned. Decisions to enter into transactions in which there are conflicts of interest with such persons that are of material significance to the company and/or to such persons require the approval of the Supervisory Board. QIAGEN has not entered into any such transactions in 2020.

Furthermore, pursuant to the Dutch implementation of the Shareholders Rights Directive II (SRD II), certain material transactions with related parties (in the meaning of the standards adopted by the International Accounting Standards Board and approved by the European Commission) require the approval of the Supervisory Board, or, if all Supervisory Directors are involved in such transaction, the General Meeting of Shareholders.

Independence

Unlike the New York Stock Exchange listing standards which require a majority of the Supervisory Board members to be independent, the Dutch Corporate Governance Code distinguishes between certain independence criteria which may be fulfilled by not more than one Supervisory Board Members (as e.g. prior employment with the Company, receiving personal financial an important business relationship with the Company) and other criteria which may not be fulfilled by more than the majority of the Supervisory Board members. In some cases the Dutch independence requirement is more stringent, such as by requiring a longer "look back" period (five years) for former executive directors. In other cases, the New York Stock Exchange rules are more stringent, such as a broader definition of disqualifying affiliations. Currently, all members of our Supervisory Board are "independent" under both the New York Stock Exchange and Dutch definitions.

Independent Auditors

In accordance with the requirements of Dutch law, our independent registered public accounting firm for our statutory consolidated financial statements prepared in accordance with International Financial Reporting Standards and filed with the Netherlands Authority for the Financial Markets (AFM), is appointed, and may be removed by, the General Meeting. The Supervisory Board nominates a candidate for the appointment as external auditor, for which the Audit Committee advises the Supervisory Board. At the Annual General Meeting in 2020, KPMG Accountants N.V. was appointed as external auditor for the Company for 2020 year. The external auditor is invited to attend the meeting of the Supervisory Board at which the statutory financial statements prepared in accordance with International Financial Reporting Standards and filed with the AFM shall be approved and is furthermore invited to attend the General Meeting at which the statutory financial statements are adopted and may be questioned by the General Meeting on its statement on the fairness of our annual accounts prepared in accordance with International Financial Reporting Standards.

Following the appointment of KPMG Accountants N.V. for the audit of our statutory consolidated financial statements, the external auditor for our consolidated financial statements prepared under U.S. generally accepted accounting principles is

KPMG AG Wirtschaftsprüfungsgesellschaft who audited the consolidated financial statements as of and for the year ended December 31, 2020 contained in this annual report.

The remuneration of the external auditor, and instructions to the external auditor to provide non-audit services, shall be approved by the Supervisory Board on the recommendation of the Audit Committee and after consultation with the Managing Board. At least once every four years, the Supervisory Board and the Audit Committee shall conduct a thorough assessment of the functioning of the external auditor. The main conclusions of this assessment shall be communicated to the General Meeting for the purposes of assessing the nomination for the appointment of the external auditor.

Whistleblower Policy and Code of Conduct

We have a formal Whistleblower Policy concerning the reporting of alleged irregularities within QIAGEN of a general, operational or financial nature. Furthermore, we have a published Code of Conduct that outlines business principles for our employees and rules of conduct. The Code of Conduct can be found on our website at www.qiagen.com.

Anti-Takeover Measures

In 2004, the Supervisory Board granted an option to the Dutch Foundation Stichting Preferente Aandelen QIAGEN that allows the Foundation to acquire preference shares from QIAGEN if (i) a person has (directly or indirectly) acquired or has expressed a desire to acquire more than 20% of our issued share capital, or (ii) a person holding at least a 10% interest in the share capital has been designated as a hostile person by our Supervisory Board. The option enables the Foundation to acquire preference shares equal to the number of our outstanding common shares at the time of the relevant exercise of the right, less one share. When exercising the option and exercising its voting rights on these shares, the Foundation must act in the interest of QIAGEN and the interests of our stakeholders. No preference shares are currently outstanding.

Dutch Corporate Governance Code--Comply or Explain

The corporate governance structure and compliance with the Dutch Code is the joint responsibility of the Managing Board and the Supervisory Board. They are accountable for this responsibility to the General Meeting. We continue to seek ways to improve our corporate governance by measuring itself against international best practice. The Dutch Code was last amended on December 8, 2016, and can be found at www.commissiecorporategovernance.nl.

Non-application of a specific best practice provision is not in itself considered objectionable by the Dutch Code and may well be justified because of particular circumstances relevant to a company. In accordance with Dutch law, we disclose in our Annual Report the application of the Dutch Code's principles and best practice provisions.

To the extent that we do not apply certain principles and best practice provisions, or do not intend to apply these in the current or the subsequent year, we state the reasons.

We take a positive view of the Dutch Code and apply nearly all of the best practice provisions. However, we prefer not to apply some provisions due to the international character of our business as well as the fact - acknowledged by the Commission that drafted the Dutch Code - that existing contractual agreements between QIAGEN and individual members of the Managing Board cannot be set aside at will.

The following provides an overview of exceptions that we have identified:

1. *Best practice provision 2.2.2 recommends that a supervisory board member is appointed for a period of four years. A member may be reappointed for a term of additional two years, which appointment may be extended by at most two years.*

Members of the Supervisory Board are appointed annually for a one-year period beginning on the day following the General Meeting up to and including the day of the General Meeting held in the following year. Dr. Metin Colpan has joined the Supervisory Board in 2004 and Ms. Elizabeth Tallett has been a Supervisory Board member since 2011. We highly value the scientific and commercial experience of Dr. Colpan and his in-depth knowledge of QIAGEN and the broad industry knowledge, management and board experience of Ms. Tallett. QIAGEN therefore supports the reappointment of Dr. Colpan and Ms. Tallett beyond the eight-year term as recommended by the Dutch Code.

2. *Best practice provision 2.1.5 recommends that the Supervisory Board should draw up a diversity policy for the composition of the Management Board, the Supervisory Board and, if applicable, the Executive Committee. The policy should address concrete targets relating to diversity and the diversity aspects to the Company, such as nationality, age, gender and education and work background.*

While QIAGEN strives for a diverse composition of the Supervisory Board, Managing Board, Executive Committee and in all other management levels of the Company, we do not consider the definition of concrete targets relating to diversity useful. We are committed to creating an environment where all individuals have the opportunity to grow and contribute to our progress, regardless of their age, educational background, gender, nationality, physical abilities, race and ethical

background, religion, or sexual orientation. We consider it to be a key success factor on the path to achieving our mission and goals. Individuals and teams alike understand the diverse needs of our customers, identify and realize cross-functional opportunities for our business areas, and can quickly adapt to a fast changing environment. In 2020, our multicultural workforce was composed of at least 80 nationalities with an average age of 40.1. With 48.4% women, we are well balanced in terms of gender on an aggregate level. Information on the composition of our Managing and Supervisory Boards can be found in Item 6.

3. *Best practice provision 3.1.2 vi. recommends that when formulating the remuneration policy, it should be considered that shares awarded to management board should be held for a period of at least five years*

Pursuant to the Company's Remuneration Policy, long-term equity-based grants to members of the Managing Board under the 2014 Plan primarily consist of an award of performance stock units, i.e. long-term incentive awards which are dependent upon the achievement of pre-defined performance goals. Grants of restricted stock units, which are based on time vesting only, are no longer to be granted on a regular basis and shall be reserved for use as special equity incentive rewards in certain situations. Performance stock units and restricted stock units granted until February 2018 are basically structured so that 40% of a grant vests after three years, 50% after five years and the remaining 10% after ten years. Grants of performance stock units and restricted stock units granted after February 2018 vest 40% after three years, 60% after five years. In 2019, the members of the Managing Board elected to receive in lieu of their 2018 cash bonus the value earned in the year in performance stock units which vest over five years from the grant date.

4. *Best practice provision 3.2.3 recommends that the maximum remuneration in the event of dismissal of a management board member may not exceed one year's salary (the "fixed" remuneration component).*

Our Managing Board members have entered into employment agreements with QIAGEN N.V. and some QIAGEN affiliates for which they hold managing positions. In case of termination of an agreement without serious cause as defined by the applicable law, the respective affiliate would remain obliged to compensate the Managing Board member for the remaining term of the employment agreement.

5. *Best practice provision 2.2.4 recommends that the supervisory board should draw up a retirement schedule in order to avoid, as far as possible, a situation in which many supervisory board members retire simultaneously. The retirement schedule should be made generally available and should be posted on the company's website.*

The Supervisory Board follows the practice to discuss retirement plans of individual members early to proactively manage continuity within the Supervisory Board. QIAGEN believes that this practice provides a more flexible and better succession planning than a fixed retirement schedule.

6. *Best practice provision 3.3.2 recommends that a supervisory board member may not be granted any shares and/or rights to shares by way of remuneration.*

QIAGEN has granted stock options to the members of the Supervisory Board as a remuneration component since its establishment until 2013 when we stopped granting stock options. Since 2007, Supervisory Board members have been granted restricted stock units. We believe that the reasonable level of equity-based compensation which we practice allows a positive alignment of shareholder interests with the other duties of the Supervisory Board and that this practice is necessary to attract and retain Supervisory Board members as the granting of share-based compensation to Supervisory Board members is a common practice in our industry.

NYSE Exemptions

Exemptions from the NYSE corporate governance standards are available to foreign private issuers, such as QIAGEN when those standards are contrary to a law, rule or regulation of any public authority exercising jurisdiction over such issuer or contrary to generally accepted business practices in the issuer's country of domicile. In connection with QIAGEN's listing on the NYSE, the NYSE accepted QIAGEN's exemptions from certain corporate governance standards that are contrary to the laws, rules, regulations or generally accepted business practices of The Netherlands. These exemptions and the practices followed by QIAGEN are described below:

- QIAGEN is exempt from NYSE's quorum requirements applicable to meetings of ordinary shareholders. In keeping with the law of The Netherlands and generally accepted business practices in The Netherlands, QIAGEN's Articles of Association provide that there are no quorum requirements generally applicable to meetings of the General Meeting.
- QIAGEN is exempt from NYSE's requirements that shareholder approval be obtained prior to the establishment of, or material amendments to, stock option or purchase plans and other equity compensation arrangements pursuant to which options or stock may be acquired by directors, officers, employees or consultants. QIAGEN is also exempt from NYSE's requirements that shareholder approval be obtained prior to certain issuances of stock resulting in a change of control, occurring in connection with acquisitions of stock or assets of another company

or issued at a price less than the greater of book or market value other than in a public offering. QIAGEN's Articles of Association do not require approval of the General Meeting prior to the establishment of a stock plan. The Articles of Association also permit the General Meeting to grant the Supervisory Board general authority to issue shares without further approval of the General Meeting. QIAGEN's General Meeting has granted the Supervisory Board general authority to issue up to a maximum of our authorized capital without further approval of the General Meeting. QIAGEN plans to seek approval of the General Meetings for stock plans and stock issuances only where required under the law of The Netherlands or under QIAGEN's Articles of Association.

Further Information

For additional information regarding our Boards, including the Audit and other Committees of our Supervisory Board, please refer to the discussion in Item 6 above.

Item 16H. Mine Safety Disclosure

Not applicable.

PART III

Item 17. Financial Statements

See Item 18.

Item 18. Financial Statements

See pages F-1 through F-53 included herein.

(A) The following financial statements, together with the reports of KPMG thereon, are filed as part of this annual report:

<u>Report of Independent Registered Public Accounting Firm</u>	<u>1</u>
<u>Report of Independent Registered Public Accounting Firm</u>	<u>3</u>
<u>Consolidated Balance Sheets</u>	<u>5</u>
<u>Consolidated Statements of Income (Loss)</u>	<u>7</u>
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<u>Schedule II—Valuation and Qualifying Accounts</u>	<u>1</u>

Item 19. Exhibits

<u>1.1</u>	Articles of Association as confirmed by notarial deed as of January 17, 2020 (English translation)
<u>2.1</u>	\$400 Million Note Purchase Agreement dated as of October 16, 2012 (Filed as Exhibit 2.9) (2)
<u>2.2</u>	2021 Bonds Indenture dated March 19, 2014 (Filed as Exhibit 2.8) (3)
<u>2.3</u>	Schuldscheinدارلہنسvertrag Form of Loan Agreement dated as of June 19, 2017 (Filed as Exhibit 2.11) (6)
<u>2.4</u>	2023 Bonds Indenture dated September 13, 2017 (Filed as Exhibit 2.13) (6)
<u>2.5</u>	2023 Form of Warrant Confirmation dated September 6, 2017 (Filed as Exhibit 2.14) (6)
<u>2.6</u>	2023 Form of Bond Hedge Confirmation dated September 6, 2017 (Filed as Exhibit 2.15) (6)
<u>2.7</u>	2024 Bonds Indenture dated November 13, 2018 (Filed as Exhibit 2.17) (7)
<u>2.8</u>	2024 Form of Warrant Confirmation dated November 6, 2018 (Filed as Exhibit 2.18) (7)
<u>2.9</u>	2024 Form of Bond Hedge Confirmation dated November 6, 2018 (Filed as Exhibit 2.19) (7)
<u>2.11</u>	Description of Securities (Filed as Exhibit 2.12) (8)
<u>*2.12</u>	Global Bearer Bond Representing Convertible Bonds due 2027 dated as of December 17, 2020
<u>*2.13</u>	Purchase Agent Agreement dated as of December 10, 2020
<u>*2.14</u>	Subscription Agreement dated as of December 10, 2020
<u>4.1</u>	QIAGEN N.V. Amended and Restated 2005 Stock Plan (Filed as Exhibit 99.1) (4)
<u>4.2</u>	QIAGEN N.V. 2014 Stock Plan (Filed as Exhibit 99.1) (5)
<u>*8.1</u>	List of Subsidiaries
<u>*12.1</u>	Certification under Section 302; Thierry Bernard, Managing Director and Chief Executive Officer
<u>*12.2</u>	Certification under Section 302; Roland Sackers, Managing Director and Chief Financial Officer
<u>*13.1</u>	Certifications under Section 906; Thierry Bernard, Managing Director and Chief Executive Officer and Roland Sackers, Managing Director and Chief Financial Officer
<u>*15.1</u>	Consent of Independent Registered Public Accounting Firm
<u>*101</u>	Inline XBRL Interactive Data File
<u>*104</u>	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith.

- (1) Incorporated by reference to Form 20-F Annual Report of QIAGEN N.V. filed with the Securities and Exchange Commission on March 6, 2017.
- (2) Incorporated by reference to Form 20-F Annual Report of QIAGEN N.V. filed with the Securities and Exchange Commission on March 4, 2013.
- (3) Incorporated by reference to Form 20-F Annual Report of QIAGEN N.V. filed with the Securities and Exchange Commission on March 2, 2015.
- (4) Incorporated by reference to Registration Statement of QIAGEN N.V. on Form S-8 filed with the Securities and Exchange Commission on November 17, 2011.
- (5) Incorporated by reference to Registration Statement of QIAGEN N.V. on Form S-8 filed with the Securities and Exchange Commission on April 2, 2015.
- (6) Incorporated by reference to Form 20-F Annual Report of QIAGEN N.V. filed with the Securities and Exchange Commission on March 6, 2018.
- (7) Incorporated by reference to Form 20-F Annual Report of QIAGEN N.V. filed with the Securities and Exchange Commission on March 6, 2019.
- (8) Incorporated by reference to Form 20-F Annual Report of QIAGEN N.V. filed with the Securities and Exchange Commission on March 2, 2020.

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

QIAGEN N.V.

Dated: March 4, 2021

By: /s/ Thierry Bernard

Thierry Bernard, Chief Executive
Officer

/s/ Roland Sackers

Roland Sackers, Chief Financial
Officer

QIAGEN N.V. AND SUBSIDIARIES
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Report of Independent Registered Public Accounting Firm

To the Shareholders and Supervisory Board
QIAGEN N.V.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of QIAGEN N.V. and subsidiaries (the “Company”) as of December 31, 2020 and 2019, the related consolidated statements of income (loss), comprehensive income (loss), changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule as listed in Item 18 (A) (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 4, 2021 expressed an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, in 2020 the Company has changed its method of accounting for expected credit losses on financial instruments and other commitments due to the adoption of Accounting Standards Codification Topic 326 – *Measurement of Credit Losses on Financial Instruments*. In 2019, the Company has changed its method for accounting for leases due to the adoption of Accounting Standards Codification Topic 842 – *Leases*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of unrecognized tax benefits

As discussed in Note 17 to the consolidated financial statements, the Company conducts its business globally and operates more than 50 consolidated subsidiaries in multiple tax jurisdictions. This multi-jurisdictional business operation involves complex intercompany operating and financing activities. The nature of these activities can result in uncertainties in the estimation of the related tax exposures. The Company initially recognizes and subsequently measures the unrecognized tax benefit in its consolidated financial statements when it is more likely than not that the position will be sustained upon examination by the tax authorities. As at 31 December 2020, the Company recorded unrecognized tax benefits of \$100.1m.

We identified the assessment of unrecognized tax benefits as a critical audit matter. Complex auditor judgment and specialized skills and knowledge were required in evaluating the Company's interpretation and application of tax laws in the jurisdictions where it operates and its estimate of the ultimate resolution of the tax position.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's unrecognized tax benefit process, including controls related to (1) its interpretation and application of tax statutes and legislation, and changes thereto, in the various jurisdictions in which it operates and (2) its determination of the estimate for the associated unrecognized tax benefit. We inspected the Company's legal composition to identify and assess changes in operating structures and financing arrangements. We inquired of the Company's tax department in combination with inspecting correspondence with the responsible tax authorities with respect to the results of inspections by tax authorities. We involved tax and transfer pricing professionals with specialized skills and knowledge, who assisted in:

- analyzing the Company's interpretation and application of multi-jurisdictional tax laws, and changes thereto, and its impact on the unrecognized tax benefit by reading advice obtained from the Company's external specialists,
- inspecting the lapse of statute of limitations and settlements with tax authorities over a selection of unrecognized tax benefits to evaluate the amount in the settlement documents compared to the unrecognized tax benefit, and
- inspecting a selection of intercompany operating and financing activities between group entities to assess the sustainability of tax positions based on their technical merits and the probabilities of possible settlement alternatives.

Initial measurement of fair value of developed technology and in-process research and development assets related to a business combination

As discussed in Note 1 and 5 to the consolidated financial statements, in September 2020, the Company acquired the remaining 80.1% shares of NeuMoDx Molecular, Inc. ("NeuMoDx") for a purchase price of \$239.4m, net of cash acquired. In allocating the purchase price, the Company recognized intangible assets at fair value in the amount of \$157.2m, including developed technology (\$101.0m) and in-process research and development (IPR&D) assets (\$55.0m), and goodwill in the amount of \$157.6m.

We identified the assessment of the initial measurement of fair value of developed technology and IPR&D acquired in the NeuMoDx business combination as a critical audit matter. Evaluating the key fair value assumptions, including the projected revenue and related growth rates, the estimated customer attrition rates and discount rates, involved a high degree of auditor judgment. Minor changes in those assumptions could have a significant effect on the determination of fair value. In addition, the audit effort required specialized skills and knowledge.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of an internal control related to the Company's acquisition-date fair value measurement process of intangible assets, including the development of the key assumptions. We evaluated the growth rates used by the Company to determine projected revenue by comparing them to industry benchmarks and publicly available data. We assessed the customer attrition rates by comparing it to historical data of the Company. We involved valuation professionals with specialized skills and knowledge, who assisted in:

- performing sensitivity analyses to assess the impact of possible changes to the key assumptions on the fair value of these intangible assets, and
- developing an estimated range of fair values of the intangible assets acquired using the Company's key assumptions and an independently developed range of discount rates using publicly available market data for comparable entities and comparing them to the Company's selected discount rates.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

We have served as the Company's auditor since 2015.

Düsseldorf, Germany

March 4, 2021

Report of Independent Registered Public Accounting Firm

To the Shareholders and Supervisory Board
QIAGEN N.V.:

Opinion on Internal Control Over Financial Reporting

We have audited QIAGEN N.V.'s and subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, the related consolidated statements of income (loss), comprehensive income (loss), changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule as listed in Item 18 (A) (collectively, the consolidated financial statements), and our report dated March 4, 2021 expressed an unqualified opinion on those consolidated financial statements.

The Company acquired NeuMoDx Molecular, Inc. during 2020, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2020, NeuMoDx Molecular, Inc.'s internal control over financial reporting associated with 6.31% of total assets and 0.53% of total revenues included in the consolidated financial statements of the Company as of and for the year ended December 31, 2020. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of NeuMoDx Molecular, Inc.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying 'Report of Management on Internal Control over Financial Reporting'. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

Düsseldorf, Germany

March 4, 2021

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

	Note	As of December 31,	
		2020	2019
Assets			
Current assets:			
Cash and cash equivalents	(3)	\$ 597,984	\$ 623,647
Restricted cash	(3)	—	5,743
Short-term investments	(7)	117,249	129,586
Accounts receivable, net of allowance for credit losses of \$27,052 in 2020 and allowance for doubtful accounts of \$12,115 in 2019	(3, 24)	380,519	385,117
Income taxes receivable		59,335	42,119
Inventories, net	(3)	291,181	170,704
Prepaid expenses and other current assets (of which \$25,429 and \$13,697 in 2020 and 2019 due from related parties, respectively)	(8, 24)	206,921	105,464
Fair value of derivative instruments - current	(14)	14,127	107,868
Total current assets		1,667,316	1,570,248
Long-term assets:			
Property, plant and equipment, net of accumulated depreciation of \$630,443 and \$699,130 in 2020 and 2019, respectively	(9)	559,372	455,243
Goodwill	(11)	2,364,031	2,140,503
Intangible assets, net of accumulated amortization of \$809,724 and \$776,520 in 2020 and 2019, respectively	(11)	726,194	632,434
Deferred income tax assets	(17)	54,879	56,542
Fair value of derivative instruments - long-term	(14)	379,080	192,266
Other long-term assets (of which \$9,594 and \$16,830 in 2020 and 2019 due from related parties, respectively)	(10, 12, 24)	161,658	188,380
Total long-term assets		4,245,214	3,665,368
Total assets		\$ 5,912,530	\$ 5,235,616

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

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

	<u>Note</u>	As of December 31,	
		2020	2019
Liabilities and equity			
Current liabilities:			
Current portion of long-term debt	(16)	\$ 42,539	\$ 285,244
Accounts payable	(24)	118,153	84,767
Fair value of derivative instruments - current	(14)	51,464	103,175
Accrued and other current liabilities (of which \$1,380 and \$15,404 due to related parties in 2020 and 2019, respectively)	(10, 13, 24)	345,665	444,303
Income taxes payable		57,265	33,856
Total current liabilities		615,086	951,345
Long-term liabilities:			
Long-term debt, net of current portion	(16)	1,880,210	1,421,108
Deferred income tax liabilities	(17)	39,216	23,442
Fair value of derivative instruments - long-term	(14)	393,455	196,929
Other long-term liabilities	(12, 15)	186,724	106,201
Total long-term liabilities		2,499,605	1,747,680
Commitments and contingencies	(20)		
Equity:			
Preference shares, 0.01 EUR par value, authorized—450,000 shares, no shares issued and outstanding		—	—
Financing preference shares, 0.01 EUR par value, authorized—40,000 shares, no shares issued and outstanding		—	—
Common Shares, 0.01 EUR par value, authorized—410,000 shares, issued—230,829 shares in 2020 and 2019, respectively		2,702	2,702
Additional paid-in capital		1,834,169	1,777,017
Retained earnings		1,323,091	1,178,457
Accumulated other comprehensive loss	(18)	(243,822)	(309,619)
Less treasury shares, at cost—2,844 and 3,077 shares in 2020 and 2019, respectively	(18)	(118,301)	(111,966)
Total equity		2,797,839	2,536,591
Total liabilities and equity		\$ 5,912,530	\$ 5,235,616

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

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

	Note	Years ended December 31,		
		2020	2019	2018
Net sales	(3, 4, 24)	\$ 1,870,346	\$ 1,526,424	\$ 1,501,848
Cost of sales:				
Cost of sales		574,467	449,651	444,165
Acquisition-related intangible amortization		63,164	71,511	56,723
Total cost of sales		637,631	521,162	500,888
Gross profit		1,232,715	1,005,262	1,000,960
Operating expenses:				
Research and development	(3)	149,072	157,448	161,852
Sales and marketing		413,684	391,906	392,281
General and administrative	(3)	111,678	112,262	104,568
Acquisition-related intangible amortization		20,811	29,973	39,032
Restructuring, acquisition, integration and other, net	(1, 6)	150,005	199,778	28,659
Long-lived asset impairments	(6)	1,034	140,031	7,987
Total operating expenses		846,284	1,031,398	734,379
Income (loss) from operations		386,431	(26,136)	266,581
Other income (expense):				
Interest income		10,032	22,113	20,851
Interest expense		(71,317)	(74,185)	(67,293)
Other income, net	(6)	114,326	432	5,598
Total other income (expense), net		53,041	(51,640)	(40,844)
Income (loss) before income tax (benefit) expense		439,472	(77,776)	225,737
Income tax expense (benefit)	(3, 17)	80,284	(36,321)	35,357
Net income (loss)		\$ 359,188	\$ (41,455)	\$ 190,380
Basic earnings (loss) per common share	(19)	\$ 1.57	\$ (0.18)	\$ 0.84
Diluted earnings (loss) per common share	(19)	\$ 1.53	\$ (0.18)	\$ 0.82
Weighted-average common shares outstanding				
Basic	(19)	228,427	226,777	226,640
Diluted	(19)	234,214	226,777	233,456

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

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

	Note	Years ended December 31,		
		2020	2019	2018
Net income (loss)		\$ 359,188	\$ (41,455)	\$ 190,380
Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods:				
(Losses) gains on cash flow hedges, net of tax benefit of \$2.8 million in 2020, tax expense of \$0 in 2019 and tax expense of \$2.8 million in 2018	(14)	(8,536)	11,547	8,526
Reclassification adjustments on cash flow hedges, net of tax expense of \$4.7 million in 2020, tax expense of \$0 in 2019 and tax benefit of \$2.4 million in 2018	(14)	13,999	(3,888)	(7,331)
Cash flow hedges, net of tax		5,463	7,659	1,195
Net investment hedge		(26,442)	5,505	13,839
Gain on pension, net of tax expense of \$0 in 2020, tax expense of \$0.4 million in 2019 and tax benefit of \$0.6 million in 2018	(38)	(437)	754	
Foreign currency translation adjustments, net of tax expense of \$0.9 million in 2020, tax benefit of \$0.5 million in 2019 and tax benefit of \$1.4 million in 2018		86,814	(11,702)	(106,615)
Total other comprehensive income (loss)		<u>65,797</u>	<u>1,025</u>	<u>(90,827)</u>
Comprehensive income (loss)		<u><u>\$ 424,985</u></u>	<u><u>\$ (40,430)</u></u>	<u><u>\$ 99,553</u></u>

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

QIAGEN N.V. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(in thousands)	Note	Common Shares		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Shares		Total Equity
		Shares	Amount				Shares	Amount	
Balance at December 31, 2017		230,829	\$ 2,702	\$ 1,630,095	\$ 1,247,945	\$ (220,759)	(4,272)	\$ (118,987)	\$ 2,540,996
ASU 2016-01 impact of change in accounting policy		—	—	—	(942)	942	—	—	—
ASU 2016-16 impact of change in accounting policy		—	—	—	(16,096)	—	—	—	(16,096)
ASC 606 impact of change in accounting policy		—	—	—	(1,306)	—	—	—	(1,306)
Issuance of warrants	(18)	—	—	71,983	—	—	—	—	71,983
Net income		—	—	—	190,380	—	—	—	190,380
Unrealized gain, net on pension		—	—	—	—	754	—	—	754
Unrealized gain, net on hedging contracts	(14)	—	—	—	—	22,365	—	—	22,365
Realized gain, net on hedging contracts	(14)	—	—	—	—	(7,331)	—	—	(7,331)
Translation adjustment, net		—	—	—	—	(106,615)	—	—	(106,615)
Purchase of treasury shares	(18)	—	—	—	—	—	(2,871)	(104,685)	(104,685)
Issuance of common shares in connection with stock plan	(22)	—	—	—	(40,357)	—	1,823	44,769	4,412
Share-based compensation	(22)	—	—	40,113	—	—	—	—	40,113
Balance at December 31, 2018		230,829	\$ 2,702	\$ 1,742,191	\$ 1,379,624	\$ (310,644)	(5,320)	\$ (178,903)	\$ 2,634,970
ASC 842 impact of change in accounting policy		—	—	—	(316)	—	—	—	(316)
Net loss		—	—	—	(41,455)	—	—	—	(41,455)
Conversion of warrants	(18)	—	—	(31,067)	(37,698)	—	2,056	68,761	(4)
Unrealized loss, net on pension		—	—	—	—	(437)	—	—	(437)
Unrealized gain, net on hedging contracts	(14)	—	—	—	—	17,052	—	—	17,052
Realized gain, net on hedging contracts	(14)	—	—	—	—	(3,888)	—	—	(3,888)
Translation adjustment, net		—	—	—	—	(11,702)	—	—	(11,702)
Purchase of treasury shares	(18)	—	—	—	—	—	(1,987)	(74,450)	(74,450)
Issuance of common shares in connection with stock plan	(22)	—	—	—	(121,698)	—	3,622	123,773	2,075
Tax withholding related to vesting of stock awards	(22)	—	—	—	—	—	(1,448)	(51,147)	(51,147)
Share-based compensation	(22)	—	—	65,893	—	—	—	—	65,893
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		—	—	—	359,188	—	—	—	359,188
Conversion of warrants	(18)	—	—	(7,547)	(22,725)	—	807	30,272	—
Termination of warrants	(18)	—	—	(30,289)	(144,337)	—	—	—	(174,626)
Equity component of convertible debt, net	(16)	—	—	54,052	—	—	—	—	54,052
Unrealized loss, net on pension		—	—	—	—	(38)	—	—	(38)
Unrealized loss, net on hedging contracts	(14)	—	—	—	—	(34,978)	—	—	(34,978)
Realized loss, net on hedging contracts	(14)	—	—	—	—	13,999	—	—	13,999
Translation adjustment, net		—	—	—	—	86,814	—	—	86,814
Purchase of treasury shares	(18)	—	—	—	—	—	(1,346)	(63,995)	(63,995)
Issuance of common shares in connection with stock plan	(22)	—	—	—	(32,418)	—	1,085	40,079	7,661
Tax withholding related to vesting of stock awards	(22)	—	—	—	—	—	(313)	(12,691)	(12,691)
Share-based compensation	(22)	—	—	40,936	—	—	—	—	40,936
Balance at December 31, 2020		230,829	\$ 2,702	\$ 1,834,169	\$ 1,323,091	\$ (243,822)	(2,844)	\$ (118,301)	\$ 2,797,839

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

QIAGEN N.V. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	Note	Years ended December 31,		
		2020	2019	2018
Cash flows from operating activities:				
Net income (loss)		\$ 359,188	\$ (41,455)	\$ 190,380
Adjustments to reconcile net income to net cash provided by operating activities, net of effects of businesses acquired:				
Depreciation and amortization		205,014	231,458	206,436
Non-cash impairments	(6)	1,432	144,830	17,020
Amortization of debt discount and issuance costs		42,318	40,763	35,537
Share-based compensation expense	(22)	40,936	65,893	40,113
Deferred income tax benefit	(17)	(6,706)	(55,362)	(23,272)
(Gain) loss on marketable securities		(1,992)	2,867	(2,725)
Gain on sale of investment	(10)	(121,813)	—	—
Reversals of contingent consideration	(15)	—	(10,433)	—
Other items, net including fair value changes in derivatives		11,696	(3,394)	(8,834)
Net changes in operating assets and liabilities:				
Accounts receivable	(3)	(14,711)	(39,578)	(41,813)
Inventories	(3)	(107,573)	(30,028)	(36,918)
Prepaid expenses and other current assets	(8)	1,061	18,626	(9,942)
Other long-term assets		316	(1,406)	(30,312)
Accounts payable		8,442	9,252	6,993
Accrued and other current liabilities	(13)	(22,141)	19,913	(13,317)
Income taxes	(17)	4,682	(6,782)	14,239
Other long-term liabilities		57,657	(14,321)	15,911
Net cash provided by operating activities		457,806	330,843	359,496
Cash flows from investing activities:				
Purchases of property, plant and equipment		(132,787)	(117,950)	(109,773)
Purchases of intangible assets	(11)	(171,450)	(156,934)	(40,990)
Proceeds from (purchases of) investments, net	(10)	25,638	(5,170)	(9,398)
Cash paid for acquisitions, net of cash acquired	(5)	(239,572)	(68,058)	(172,832)
Purchases of short-term investments	(7)	(49,770)	(293,959)	(568,002)
Proceeds from redemptions of short-term investments	(7)	181,223	396,098	691,765
Proceeds from divestiture	(5)	1,845	1,000	16,394
Cash (paid) received for collateral asset	(14)	(53,417)	22,685	(3,461)
Other investing activities		(4,991)	10	(15,059)
Net cash used in investing activities		(443,281)	(222,278)	(211,356)
Cash flows from financing activities:				
Proceeds from short-term debt	(16)	59,345	—	—
Repayment of short-term debt	(16)	(58,705)	—	—
Proceeds from long-term debt, net of issuance costs	(16)	497,646	—	—
Repayment of long-term debt	(16)	(296,400)	(506,400)	—
Payment for termination of warrants	(18)	(174,627)	—	—
Payment of intrinsic value of cash convertible notes	(16)	(237,438)	(133,763)	—
Proceeds from exercise of call option related to cash convertible notes	(16)	239,836	134,737	—
Purchase of treasury shares	(18)	(63,995)	(74,450)	(104,685)
Proceeds from issuance of common shares		7,662	2,075	4,412
Tax withholding related to vesting of stock awards		(13,841)	(49,998)	—
Other financing activities		(9,610)	(11,281)	(8,019)
Proceeds from issuance of cash convertible notes, net of issuance costs	(16)	—	—	494,879
Purchase of call option related to cash convertible notes	(16)	—	—	(97,277)
Proceeds from issuance of warrants, net of issuance costs	(18)	—	—	72,406
Principal payments on capital leases		—	—	(1,308)
Net cash (used in) provided by financing activities		(50,127)	(639,080)	360,408
Effect of exchange rate changes on cash, cash equivalents and restricted cash		4,196	826	(7,183)
Net (decrease) increase in cash, cash equivalents and restricted cash		(31,406)	(529,689)	501,365
Cash, cash equivalents and restricted cash, beginning of period		629,390	1,159,079	657,714
Cash, cash equivalents and restricted cash, end of period		\$ 597,984	\$ 629,390	\$ 1,159,079
Supplemental cash flow disclosures:				
Cash paid for interest		\$ 25,351	\$ 29,721	\$ 25,902
Cash paid for income taxes		\$ 42,572	\$ 41,474	\$ 29,317

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

QIAGEN N.V. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2020

1. Corporate Information and Basis of Presentation

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 December 31, 2020, we employed more than 5,600 people in over 35 locations worldwide.

Announced Merger with Thermo Fisher Scientific Inc.

On March 3, 2020, QIAGEN and Thermo Fisher Scientific Inc. (NYSE: TMO) announced that their boards of directors, as well as the Managing Board of QIAGEN N.V., unanimously approved Thermo Fisher's proposal to acquire QIAGEN for €39.00 per share in cash. On July 16, 2020, Thermo Fisher and QIAGEN entered into an amendment to the Business Combination Agreement dated as of March 3, 2020 whereby Quebec B.V., the wholly-owned subsidiary of Thermo Fisher making the public tender offer, increased the cash consideration offered per QIAGEN share from €39.00 to €43.00. The amendment also provided for a reduction of the minimum acceptance threshold from 75% to 66.67% of QIAGEN's issued and outstanding ordinary share capital at the end of the acceptance period on August 10, 2020, as well as a \$95.0 million expense reimbursement payable by QIAGEN to Thermo Fisher if the minimum acceptance threshold is not met. On August 13, 2020, QIAGEN announced that Thermo Fisher did not achieve the minimum 66.67% acceptance threshold from QIAGEN shareholders. For the year ended December 31, 2020, we incurred related expenses of \$125.5 million, which includes the \$95.0 million expense reimbursement which was paid when the minimum acceptance threshold was not met. These costs are recorded within restructuring, acquisition, integration and other expenses, net in the accompanying consolidated statement of income.

Basis of Presentation

The accompanying consolidated financial statements were prepared in accordance with U.S. generally accepted accounting principles (GAAP) and all amounts are presented in U.S. dollars rounded to the nearest thousand, unless otherwise indicated. The consolidated financial statements have been prepared on a historical cost basis, except for derivative financial instruments, contingent consideration and available-for-sale financial instruments that have been measured at fair value.

We undertake acquisitions to complement our own internal product development activities. In September 2020, we completed the acquisition of the remaining shares in NeuMoDx Molecular, Inc ("NeuMoDx"), a privately-held U.S. company that designs and develops molecular diagnostics solutions for hospital and clinical reference laboratories. In 2019, we completed three immaterial acquisitions, including the January 2019 acquisition of N-of-One, Inc., a privately-held U.S. molecular decision support company and pioneer in clinical interpretation services for complex genomic data located in Concord, Massachusetts. In April 2018, we acquired all shares in STAT-Dx Life, S.L. ("STAT-Dx"), a privately-held company located in Barcelona, Spain and also completed the acquisition of the remaining shares of a privately held entity in which we held a minority interest. Accordingly, at their respective acquisition dates, all the assets acquired and liabilities assumed were recorded at their respective fair values and our consolidated results of operations include the operating results from the acquired companies from the acquisition date.

Certain prior year amounts have been reclassified to conform to the current year presentation.

2. Effects of New Accounting Pronouncements

The following new Financial Accounting Standards Board (FASB) Accounting Standards Updates (ASU) were adopted in 2020, 2019 and 2018:

Adoption of New Accounting Standards in 2020

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

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

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

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

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

Adoption of New Accounting Standards in 2019

The FASB issued guidance codified in Accounting Standards Codification (ASC) Topic 842, *Leases (Topic 842)*, which supersedes the lease requirements in ASC Topic 840 and aims to increase transparency and comparability among organizations and requires disclosure of key information about leasing arrangements. The main principle of ASC 842 requires lessees to recognize the assets and liabilities that arise from nearly all leases on the consolidated balance sheet. Lessor accounting remains mainly consistent with the former guidance, with the majority of changes allowing for better alignment with the new lessee model and ASC Topic 606. We adopted these standards as per the effective date of January 1, 2019, using the modified retrospective approach and did not restate comparative periods. Under this approach, the cumulative effect of initially applying the standard was recognized as an adjustment to the opening balance of retained earnings on the date of initial application. As a lessee, the classification of our leases did not change, but we recognized a lease liability and corresponding right-of-use asset on our consolidated balance sheets for all our operating leases. We have elected the package of practical expedients which allows us to not reassess (1) whether existing contracts contain leases, (2) the lease classification for existing leases, and (3) whether existing initial direct costs meet the new definition. We also elected the hindsight practical expedient which permits entities to use hindsight in determining the lease term when transitioning to ASC 842. Our initial lease liabilities and right-of-use assets totaled \$57.7 million and \$57.4 million, respectively, as recorded in our consolidated balance sheet as of January 1, 2019,

primarily relating to leased office space. The difference between the additional lease assets and lease liabilities was recorded as a \$0.3 million adjustment to retained earnings. Further disclosure is found in Note 12 "Leases".

ASU 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*, makes more financial and nonfinancial hedging strategies eligible for hedge accounting. It also amends the presentation and disclosure requirements and changes how companies assess effectiveness. It is intended to more closely align hedge accounting with companies' risk management strategies, simplify the application of hedge accounting, and increase transparency as to the scope and results of hedging programs. The new guidance became effective for public entities beginning on January 1, 2019 by applying a modified retrospective approach to existing hedging relationships as of the adoption date. Under the modified retrospective approach, entities with cash flow or net investment hedges will make (1) a cumulative-effect adjustment to accumulated other comprehensive income so that the adjusted amount represents the cumulative change in the hedging instruments' fair value since hedge inception (less any amounts that should have been recognized in earnings under the new accounting model) and (2) a corresponding adjustment to opening retained earnings as of the most recent period presented on the date of adoption. We adopted ASU 2017-12 on January 1, 2019 without any cumulative effect.

ASU 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, removes Step 2 of the goodwill impairment test. A goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. ASU 2017-04 is effective for public entities for annual periods beginning January 1, 2020 and early adoption is permitted. The new guidance is required to be applied on a prospective basis. We adopted ASU 2017-04 on January 1, 2019 and applied the new guidance prospectively as required.

ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework*, provides guidance that eliminates, adds and modifies certain disclosure requirements for fair value measurements. ASU 2018-13 is effective for public entities for annual periods beginning January 1, 2020. Entities are permitted to early adopt either the entire standard or only the provisions that eliminate or modify the requirements. We adopted ASU 2018-13 on January 1, 2019 and applied the entire standard to disclosures as required beginning in 2019.

ASU 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, provides guidance on a customer's accounting for implementation, set-up, and other upfront costs incurred in a cloud computing arrangement that is hosted by the vendor, i.e. a service contract. Under the new guidance, customers will apply the same criteria for capitalizing implementation costs as they would for an arrangement that has a software license. ASU 2018-15 is effective for public entities for annual periods beginning January 1, 2020, and early adoption is permitted and should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. We adopted ASU 2018-15 on January 1, 2019 and applied the guidance to all implementation costs prospectively.

ASU 2018-17, *Consolidation (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities*, amends how a decision maker or service provider determines whether its fee is a variable interest entity (VIE) when a related party under common control also has an interest in the VIE. We adopted ASU 2018-17 on January 1, 2019, on a prospective basis.

Adoption of New Accounting Standards in 2018

ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* and additional related accounting standard updates to clarify and provide implementation guidance were adopted with a date of initial application of January 1, 2018. The comparative information for 2017 has not been adjusted and continues to be reported under ASC Topic 605 Revenue Recognition. As a result, we changed our accounting policy for revenue recognition. We applied the Topic 606 using the "modified retrospective method" by recognizing the effect of initially applying Topic 606 as an \$1.3 million decrease to the opening balance of retained earnings at January 1, 2018, for all contracts not completed at January 1, 2018.

ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* as well as an additional clarifying accounting standard update became effective for our financial statements beginning in the first quarter of 2018. This ASU makes targeted improvements to existing U.S. GAAP for both the recognition and measurement of financial assets and financial liabilities. Changes in accounting to our equity investments as a result of this standard are further discussed in Notes below. As required, we adopted using a cumulative-effect adjustment to the balance sheet as of the beginning of 2018 and recorded an adjustment to decrease opening retained earnings at January 1, 2018 by \$0.9 million (pre-tax \$1.1 million) as required for our equity investments recorded at fair value.

ASU 2016-05, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* and ASU 2016-18, *Statement of Cash Flows (Topic 320): Restricted Cash*, addresses classification issues and presentation related to the statement of cash flows and was adopted on January 1, 2018 without any impact from the adoption.

ASU 2016-16, *Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*, aims to improve the accounting for the income tax consequences of intra-entity transfers of assets other than inventory. This standard was adopted on a modified retrospective basis resulting in a decrease to opening retained earnings of \$16.1 million at January 1, 2018.

ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*, clarifies and provides a more robust framework to use in determining when a set of assets and activities is a business. We adopted this update beginning January 1, 2018, without impact.

ASU 2017-09, *Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting*, clarifies when to account for a change to the terms and conditions of a share-based payment award as a modification. This guidance is effective prospectively and was adopted as of January 1, 2018.

ASU 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, permits reclassification of stranded tax effects of the U.S. Tax Cuts and Jobs Act (Tax Act). We adopted this standard as of April 1, 2018 with no impact as we had no stranded tax effects. This guidance only relates to the effects of the Tax Act. For all other tax law changes that have occurred or may occur in the future, we reclassify the tax effects to the consolidated statement of income (loss) on an item-by-item basis when the pre-tax item in accumulated other comprehensive income (loss) is reclassified to income.

ASU 2018-07, *Compensation-Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*, aligns most of the accounting for share-based payment awards issued to employees and non-employees. We early adopted this standard as of July 1, 2018, without material impact.

New Accounting Standards Not Yet Adopted

The following new FASB Accounting Standards Updates, which are not yet adopted as of December 31, 2020, have been grouped by their required effective dates or early adoption date:

First Quarter of 2021

ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, removes certain exceptions for recognizing deferred taxes for investments, performing intraperiod tax allocations and calculating income taxes in interim periods. The ASU also adds guidance to reduce complexity in certain areas, including recognizing deferred taxes for tax goodwill and allocating income taxes to members of a consolidated group. ASU 2019-12 is effective for annual periods beginning on January 1, 2021, with earlier adoption permitted. We 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 of future events or conditions that 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 early adopted ASU 2020-06 on January 1, 2021 and as a result reclassified \$54.1 million from equity for the conversion feature to the liability for our 2027 Convertible Notes further discussed in Note 16 "Debt".

Through December 31, 2022

ASU 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, and ASU 2021-01 *Reference Rate Reform (Topic 848): Scope*, provide 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 continue to evaluate the guidance.

3. Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts of QIAGEN N.V. and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated. 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 as discussed under

"Non-marketable Investments" below. When there is a portion of equity in an acquired subsidiary not attributable, directly or indirectly, to the Company, we record the fair value of the noncontrolling interests at the acquisition date and classify the amounts attributable to noncontrolling interests separately in equity in the consolidated financial statements. Any subsequent changes in the Company's ownership interest while the Company retains its controlling financial interest in its subsidiary are accounted for as equity transactions.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States 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. Actual results could differ from those estimates.

Concentrations of Risk

We buy materials for products from many suppliers, and are not dependent on any one supplier or group of suppliers for the business as a whole. However, key components of certain products, including certain instrumentation components and chemicals, are available only from a single source. If supplies from these vendors were delayed or interrupted for any reason, we may not be able to obtain these materials timely or in sufficient quantities in order to produce certain products and sales levels could be negatively affected. Additionally, our customers include researchers at pharmaceutical and biotechnology companies, academic institutions, and government and private laboratories. Fluctuations in the research and development budgets of these researchers and their organizations for applications in which our products are used could have a significant effect on the demand for our products.

The financial instruments used in managing our foreign currency, equity and interest rate exposures have an element of risk in that the counterparties may be unable to meet the terms of the agreements. We attempt to minimize this risk by limiting the counterparties to a diverse group of highly-rated international financial institutions. The carrying values of our financial instruments incorporate the non-performance risk by using market pricing for credit risk. However, we have no reason to believe that any counterparties will default on their obligations. In order to minimize our exposure with any single counterparty, we have entered into master agreements which allow us to manage the exposure with the respective counterparty on a net basis.

Other financial instruments that potentially subject us to concentrations of credit risk are cash and cash equivalents, short-term investments, and accounts receivable. We attempt to minimize the risks related to cash and cash equivalents and short-term investments by dealing with highly-rated financial institutions and investing in a broad and diverse range of financial instruments. We have established guidelines related to credit quality and maturities of investments intended to maintain safety and liquidity. Concentration of credit risk with respect to accounts receivable is limited due to a large and diverse customer base, which is dispersed over different geographic areas. Allowances are maintained for potential credit losses and such losses have historically been within expected ranges.

Foreign Currency Translation

Our reporting currency is the U.S. dollar and the functional currencies of our subsidiaries are generally the local currency of the respective 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 equity at historical rates. Translation gains or losses are recorded in equity, and transaction gains and losses are reflected in net income (loss) as a component of other income, net. Realized gains or losses on the value of derivative contracts entered into to hedge the exchange rate exposure of receivables and payables are also included in net income (loss) as a component of other income, net. The net loss on foreign currency transactions was \$4.1 million, \$5.7 million, and \$12.3 million in 2020, 2019 and 2018, respectively, and is included in other income, net.

The exchange rates of key currencies were as follows:

(US\$ equivalent for one)	Closing rate at December 31,		Annual average rate		
	2020	2019	2020	2019	2018
Euro (EUR)	1.2271	1.1234	1.1411	1.1196	1.1813
Pound Sterling (GBP)	1.3649	1.3204	1.2836	1.2768	1.3356
Swiss Franc (CHF)	1.1360	1.0350	1.0659	1.0062	1.0228
Australian Dollar (AUD)	0.7720	0.7023	0.6905	0.6954	0.7478
Canadian Dollar (CAD)	0.7849	0.7696	0.7463	0.7535	0.7719
Japanese Yen (JPY)	0.0097	0.0092	0.0094	0.0092	0.0091
Chinese Yuan (CNY)	0.1530	0.1437	0.1450	0.1448	0.1514

Segment Information

We determined that we operate as one operating segment in accordance with the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 280, *Segment Reporting*. Our chief operating decision maker (CODM) makes decisions based on the Company as a whole. In addition, we have a common basis of organization and types of products and services which derive revenues and consistent product margins. Accordingly, we operate and make decisions as one reporting unit.

Revenue Recognition

We recognize revenue when control of promised goods or services transfers to our customers in an amount that reflects the consideration that is expected to be received in exchange for those goods or services. The majority of our sales revenue is recognized when products are shipped to the customers at which point control transfers.

Warranty

We provide warranties on our products against defects in materials and workmanship for a period of one year. A provision for estimated future warranty costs is recorded in cost of sales at the time product revenue is recognized. Product warranty obligations are included in accrued and other current liabilities in the accompanying consolidated balance sheets.

Research and Development

Research and product development costs are expensed as incurred. Research and development expenses consist primarily of salaries and related expenses, facility costs, and amounts paid to contract research organizations and laboratories for the provision of services and materials as well as costs for internal use or clinical trials.

Government Grants

We recognize government grants when there is reasonable assurance that all conditions will be complied with and the grant will be received. Our government grants generally represent subsidies for specified activities and are therefore recognized when earned as a reduction of the expenses recorded for the activity that the grants are intended to compensate. Thus, when the grant relates to research and development expense, the grant is recognized over the same period that the related costs are incurred. Otherwise, amounts received under government grants are recorded as liabilities in the balance sheet. When the grant relates to an asset, the nominal amount of the grant is deducted from the carrying amount of the asset and recognized over the same period that the related asset is depreciated.

Borrowing Costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the respective assets (qualifying asset) when such borrowing costs are significant. All other borrowing costs are expensed in the period they occur.

Shipping and Handling Income and Costs

Shipping and handling costs charged to customers are recorded as revenue in the period that the related product sale revenue is recorded. Associated costs of shipping and handling are included in sales and marketing expenses. For the years ended December 31, 2020, 2019 and 2018, shipping and handling costs totaled \$32.1 million, \$27.9 million and \$28.4 million, respectively.

Advertising Costs

The costs of advertising are expensed as incurred and are included as a component of sales and marketing expense. Advertising costs for the years ended December 31, 2020, 2019 and 2018 were \$9.5 million, \$8.1 million and \$8.1 million, respectively.

General and Administrative

General and administrative expenses primarily represent the costs required to support administrative infrastructure. These costs include licensing costs in connection with continued investments in information technology improvements, including cyber security, across the organization as well as personnel in administrative functions.

Restructuring, Acquisition, Integration and Other

We incur indirect acquisition and business integration costs in connection with business combinations which are expensed when incurred. These costs represent incremental costs that we believe would not have been incurred absent the business combinations. Major components of these costs include consulting and related fees incurred to integrate or restructure the acquired operations, payroll and related costs for employees remaining with the Company on a transitional basis and public relations, advertising and media costs for re-branding of the combined organization.

Restructuring costs include personnel costs (principally termination benefits) as well as contract and other costs, primarily contract termination costs. Termination benefits are accounted for in accordance with FASB ASC Topic 712, *Compensation - Nonretirement Postemployment Benefits*, and are recorded when it is probable that employees will be entitled to benefits and the amounts can be reasonably estimated. Estimates of termination benefits are based on the frequency of past termination benefits, the similarity of benefits under the current plan and prior plans, and the existence of statutory required minimum benefits.

Contract and other costs are accounted for in accordance with FASB ASC Topic 420, *Exit or Disposal Cost Obligations* and are recorded when the liability is incurred. The specific restructuring measures and associated estimated costs are based on management's best business judgment under the existing circumstances at the time the estimates are made. If future events require changes to these estimates, such adjustments will be reflected in the period of the revised estimate.

Income Taxes

We account for income taxes under the liability method. Under this method, total income tax expense is the amount of income taxes expected to be payable for the current year plus the change from the beginning of the year for deferred income tax assets and liabilities established for the expected future tax consequences resulting from differences in the financial statement carrying amount and the tax basis of assets and liabilities. Deferred tax assets and/or liabilities are determined by multiplying the differences between the financial statement carrying amount and the tax reporting bases for assets and liabilities by the enacted tax rates expected to be in effect when such differences are recovered or settled. Deferred tax assets are reduced by a valuation allowance to the amount more likely than not to be realized. The effect on deferred taxes of a change in tax rates is recognized in income in the period that includes the enactment date.

Tax benefits are initially recognized in the financial statements when it is more likely than not that the position will be sustained upon examination by the tax authorities. Such tax positions are initially and subsequently measured as the largest amount of tax benefit that is greater than 50 percent likely of being realized upon settlement with the taxing authority using the cumulative probability method, assuming the tax authority has full knowledge of the position and all relevant facts. Our policy is to recognize interest accrued related to unrecognized tax benefits in interest expense and penalties within the income tax expense.

Derivative Instruments

We enter into derivative financial instrument contracts to minimize the variability of cash flows or income statement impact associated with the anticipated transactions being hedged or to hedge fluctuating interest rates. As changes in foreign currency or interest rate impact the value of anticipated transactions, the fair value of the forward or swap contracts also changes, offsetting foreign currency or interest rate fluctuations. Derivative instruments are recorded on the balance sheet at fair value. Changes in fair value of derivatives are recorded in current earnings or other comprehensive income, depending on whether a derivative is designated as part of a hedge transaction.

Share-Based Payments

Compensation cost for all share-based payments is recorded based on the grant date fair value, less an estimate for pre-vesting forfeitures, recognized in expense over the service period using an accelerated method.

Forfeiture Rate—This is the estimated percentage of grants that are expected to be forfeited or canceled on an annual basis before becoming fully vested. We estimated the forfeiture rate based on historical forfeiture experience.

Restricted Stock Units and Performance Stock Units: Restricted stock units and performance stock units represent rights to receive Common Shares at a future date. The fair market value of restricted and performance stock units is determined based on the number of stock units granted and the fair market value of our shares on the grant date. The fair market value at the time of the grant, less an estimate for pre-vesting forfeitures, is recognized in expense over the vesting period. At each reporting period, the estimated performance achievement of the performance stock units is assessed and any change in the estimated achievement is recorded on a cumulative basis in the period of adjustment.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash on deposit in banks and other cash invested temporarily in various instruments that are short-term and highly liquid, and having an original maturity of less than 90 days at the date of purchase. Cash and cash equivalents as of December 31, 2020 and 2019 consist of the following:

(in thousands)	2020	2019
Cash at bank and on hand	\$ 245,373	\$ 189,569
Short-term bank deposits	352,611	434,078
Cash and cash equivalents	\$ 597,984	\$ 623,647

Restricted Cash

Restricted cash includes cash that is subject to legal restriction in connection with a tender offer and not available for general operating purposes. As of December 31, 2019, we had \$5.7 million of restricted cash.

Short-Term Investments

Short-term investments consisting of marketable equity securities are reported at fair value with gains and losses recorded in earnings.

Short-term investments consisting of cash investments are classified as “available for sale” and stated at fair value, which is equivalent to the amortized cost, in the accompanying consolidated balance sheet. Interest income is accrued when earned and changes in fair market values are reflected in other income, net. The amortization of premiums and accretion of discounts to maturity arising from acquisition is included in interest income. A decline in fair value that is judged to be other-than-temporary is accounted for as a realized loss and the write-down is included in the consolidated statements of income. Realized gains and losses, determined on a specific identification basis on the sale of short-term investments, are included in income.

Fair Value of Financial Instruments

The carrying amount of cash and cash equivalents, notes receivable, accounts receivable, accounts payable and accrued liabilities approximate their fair values because of the short maturities of those instruments. The carrying value of our variable rate debt and leases approximates their fair values because of the short maturities and/or interest rates which are comparable to those available to us on similar terms. The fair values of the zero coupon convertible debt and the Cash Convertible Notes are based on an estimation using available over-the-counter market information. The fair values of the Private Placement Senior Notes were estimated using the changes in the U.S. Treasury rates and the fair value of the German Private Placement is based on an estimation using changes in the euro swap rates.

Accounts Receivable and Allowance for Credit Losses

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

We sell our products worldwide through sales subsidiaries and distributors. There is no concentration of credit risk with respect to trade accounts receivable as we have a large number of internationally dispersed customers. Trade accounts receivable are non-interest bearing and mostly have payment terms of 30-90 days. For all years presented, no single customer represented more than ten percent of accounts receivable or consolidated net sales.

The changes in the allowance for credit losses on accounts receivable for the year ended December 31, 2020 and in the allowance for doubtful accounts for the years ended December 31, 2019 and 2018 are as follows:

(in thousands)	2020	2019	2018
Balance at beginning of year	\$ 12,115	\$ 9,270	\$ 8,008
ASC 326 adoption impact	8,089	—	—
Additions charged to expense	16,439	8,701	4,448
Deductions from allowance	(9,868)	(5,777)	(2,827)
Currency translation adjustments and other	277	(79)	(359)
Balance at end of year	<u>\$ 27,052</u>	<u>\$ 12,115</u>	<u>\$ 9,270</u>

For the year ended December 31, 2020, additions charged to expense of \$16.4 million include the forward-looking expected impact of the global economic uncertainty caused by COVID-19.

Loans and Other Receivables and Allowance for Credit Losses

Prepaid expenses and other current assets include other short-term receivables and other long-term assets include long-term loan receivables. Following the adoption of Topic 326, we are required to use the new forward-looking expected credit loss model that replaced the previous incurred credit loss model. The new model generally results in earlier recognition of allowances for credit losses and requires consideration of a broader range of information to estimate expected credit losses over the entire lifetime of the assets. Accordingly, with the adoption of Topic 326, we recorded allowances for credit losses of \$10.2 million for other receivables and \$1.3 million for loan receivables. As of December 31, 2020, allowances for credit losses of \$7.9 million for other receivables are included in prepaid expenses and other current assets and \$1.2 million for loan

receivables are included in other long-term assets in the accompanying consolidated balance sheet. The allowances reflect the forward-looking expected impact of non-payment of the contractual amounts due.

Inventories

Inventories are stated at the lower of cost or net realizable value, determined on either a weighted average cost basis or a standard cost basis which is regularly adjusted to actual. Inventories include material, direct labor and overhead costs and are reduced for estimated obsolescence. Inventories consisted of the following as of December 31, 2020 and 2019:

(in thousands)	2020	2019
Raw materials	\$ 65,449	\$ 26,077
Work in process	74,398	45,729
Finished goods	151,334	98,898
Total inventories, net	<u>\$ 291,181</u>	<u>\$ 170,704</u>

Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated amortization. Capitalized internal-use software costs include only those direct costs associated with the actual development or acquisition of computer software solely to meet internal needs and cloud-based applications to deliver our service and comprise costs associated with the design, coding, installation and testing of the system. Costs associated with preliminary development, such as the evaluation and selection of alternatives, as well as training, maintenance and support are expensed as incurred. Costs for software to be sold, leased or otherwise marketed that are related to the conceptual formulation and design are expensed as incurred. Costs incurred to produce software products and the software components of products to be sold, leased or marketed after technological feasibility is established are capitalized and amortized in accordance with the accounting standards for the costs of software to be sold, leased, or otherwise marketed. All other depreciation is computed using the straight-line method over the estimated useful lives of the assets (3 to 40 years). Amortization of leasehold improvements is computed on a straight-line basis over the lesser of the remaining life of the lease or the estimated useful life of the improvement asset. We have a policy of capitalizing expenditures that materially increase assets' useful lives and charging ordinary maintenance and repairs to operations as incurred. When property or equipment is disposed of, the cost and related accumulated depreciation and amortization are removed from the accounts and any gain or loss is included in earnings.

Business Combinations

We include the results of operations of the businesses that we acquire as of the acquisition date. The purchase price of an acquired business is allocated to the individual assets acquired and liabilities assumed based on their fair values at the date of acquisition. Those fair values are determined using income, cost and market approaches, most of which depend upon significant inputs that are not observable in the market, or level 3 measurements. The excess of purchase price over the fair value of identifiable assets acquired and liabilities assumed is recorded as goodwill. Acquisition-related expenses are recognized separately from the business combinations and are expensed as incurred.

The purchase price for some business combinations includes consideration that is contingent on the achievement of net sales or earnings targets by the acquired business. Contingent consideration is measured initially and on a recurring basis at fair value. Payments to settle the acquisition-date fair value of contingent consideration are presented as financing activities on the statement of cash flows; any payments in excess of the acquisition-date fair value are presented as operating activities.

Acquired Intangibles and Goodwill

Acquired intangibles with alternative future uses are carried at cost less accumulated amortization and consist of licenses to technology held by third parties and other acquired intangible assets. Amortization is computed over the estimated useful life of the underlying patents, which has historically ranged from 1 to 20 years. Purchased intangible assets acquired in business combinations, other than goodwill, are amortized over their estimated useful lives unless these lives are determined to be indefinite. Intangibles are assessed for recoverability considering the contract life and the period of time over which the intangible will contribute to future cash flow. The unamortized cost of intangible assets, where cash flows are independent and identifiable from other assets, is evaluated periodically and adjusted, if necessary, if events and circumstances indicate that a decline in value below the carrying amount has occurred. Intangible asset impairments recorded during the year ended December 31, 2020, 2019 and 2018 are further discussed in Note 6 "Restructuring and Impairments".

Amortization expense related to developed technology and patent and license rights which have been acquired in a business combination is included in cost of sales. Amortization of trademarks, customer base and non-compete agreements which have been 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 either the cost of sales, research and development or sales and marketing line items based on the use of the asset.

We dispose the gross carrying amount and accumulated amortization of fully amortized intangible assets from historic business combinations once they are considered fully integrated into our business.

The fair value of in-process research and development (IPR&D) acquired in a business combination is capitalized as an indefinite-lived intangible asset until completion or abandonment of the related research and development activities. IPR&D is tested for impairment annually or when any event or circumstance indicates that the fair value may be below the carrying value. If and when research and development is complete, the associated asset is amortized over the estimated useful life.

Goodwill represents the difference between the purchase price and the estimated fair value of the net assets acquired arising from business combinations. Goodwill is subject to impairment tests annually or earlier if indicators of potential impairment exist, using a fair-value-based approach. We have elected to perform our annual test for indications of impairment as of October 1st of each year. Following the annual impairment tests for the years ended December 31, 2020, 2019 and 2018, goodwill has not been impaired.

Non-Marketable Investments

We have investments in non-marketable equity securities issued by privately held companies. These investments are included in other long-term assets in the accompanying consolidated balance sheets. Non-marketable investments through which we exercise significant influence but do not have control are accounted for using the equity method. We monitor for changes in circumstances that may require a reassessment of the level of influence. Following the adoption of ASU 2016-01 on January 1, 2018, our non-marketable equity securities not accounted for under the equity method are either carried at fair value or under the measurement alternative. Under the measurement alternative, the carrying value is measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Adjustments are determined primarily based on a market approach as of the transaction date.

Investments are evaluated periodically, or when impairment indicators are noted, to determine if declines in value are other-than-temporary. In making that determination, we consider all available evidence relating to the realizable value of a security. This evidence includes, but is not limited to, the following:

- adverse financial conditions of a specific issuer, segment, industry, region or other variables;
- the length of time and the extent to which the fair value has been less than cost; and
- the financial condition and near-term prospects of the issuer.

We consider whether the fair values of any of our non-marketable investments have declined below their carrying value whenever adverse events or changes in circumstances indicate that recorded values may not be recoverable. If any such decline is considered to be other than temporary (based on various factors, including historical financial results, product development activities and the overall health of the affiliate's industry), then a write-down of the investment would be recorded in operating expense to its estimated fair value. Investment impairments recorded during the year ended December 31, 2020 are discussed in Note 10 "Investments."

Variable Interest Entities

We evaluate at the inception of each arrangement whether we have made an investment in an entity that is considered a variable interest entity (VIE) or if we hold other variable interests in an arrangement that is considered a variable interest entity (VIE). We consolidate VIEs when we are the primary beneficiary. The primary beneficiary of a VIE is the party that meets both of the following criteria: (1) has the power to make decisions that most significantly affect the economic performance of the VIE; and (2) has the obligation to absorb losses or the right to receive benefits that in either case could potentially be significant to the VIE. Periodically, we assess whether any changes in our interest or relationship with the entity affect our determination of whether the entity is still a VIE and, if so, whether we are the primary beneficiary. If we are not the primary beneficiary in a VIE, we account for the investment or other variable interests in a VIE as an investment in a non-marketable investment or in accordance with other applicable GAAP.

Impairment of Long-Lived Assets

We review our long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or a group of assets may not be recoverable. We consider, amongst other indicators, a history of operating losses or a change in expected sales levels to be indicators of potential impairment. Assets are grouped and evaluated for impairment at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets. If an asset is determined to be impaired, the loss is measured as the amount by which the carrying amount of the asset exceeds fair value which is determined by applicable market prices, when available. When market prices are not available, we generally measure fair value by discounting projected future cash flows of the asset. Considerable judgment is necessary to estimate discounted future cash flows. Accordingly, actual results could differ from such estimates.

4. Revenue

Nature of Goods and Services

Our revenues are reported net of sales and value added taxes and accruals for estimated rebates and returns and are derived primarily from the sale of consumable and instrumentation products, and to a much lesser extent, from the sale of services, intellectual property and technology. Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. We enter into contracts that can include various combinations of products and services, which are generally distinct and accounted for as separate performance obligations. The transaction price is allocated to performance obligations based on their relative stand-alone selling prices.

We offer warranties on our products. Certain of our warranties are assurance-type in nature and do not cover anything beyond ensuring that the product is functioning as intended. Based on the guidance in Topic 606, assurance-type warranties do not represent separate performance obligations. The Company also sells separately-priced service contracts which qualify as service-type warranties and represent separate performance obligations.

We sell our products and services both directly to customers and through distributors generally under agreements with payment terms typically less than 90 days and in most cases not exceeding one year and therefore contracts do not contain a significant financing component.

Consumable and Related Revenue

Consumable Products: In the last three years, revenue from consumable product sales has accounted for approximately 78-80% of our net sales and revenue is recognized when performance obligations under the terms of a contract with a customer are satisfied. The majority of our contracts have a single performance obligation to transfer a product or multiple performance obligations to transfer multiple products concurrently. Accordingly, we recognize revenue when control of the products has transferred to the customer, which is generally at the time of shipment of products as this is when title and risk of loss have been transferred. In addition, invoicing typically occurs at this time so this is when we have a present right to payment. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring products and is generally based upon a negotiated formula, list or fixed price.

Related Revenue: Revenues from related products include software-as-a-service (SaaS), licenses, intellectual property and patent sales, royalties and milestone payments and over the last three years has accounted for approximately 6-10% of our net sales.

SaaS arrangements: Revenue from SaaS arrangements, which allow customers to use hosted software over the contract period without taking possession of the software, is recognized over the duration of the agreement unless the terms of the agreement indicate that revenue should be recognized in a different pattern, for example based on usage.

Licenses: Licenses for on-site software, which allow customers to use the software as it exists when made available, are sold as perpetual licenses or term licenses. Revenue from on-site licenses are recognized upfront at the point in time at the later of when the software is made available to the customer and the beginning of the license term. When a portion of the transaction price is allocated to a performance obligation to provide support and/or updates, revenue is recognized as the updates/support are provided, generally over the life of the license. Fees from research collaborations include payments for technology transfer and access rights. Royalties from licensees of intellectual property are based on sales of licensed products and revenues are recognized at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied).

Milestone Payments: At the inception of each companion diagnostic co-development arrangement that includes development milestone payments, which represent variable consideration, we evaluate whether the milestones are probable of being reached and estimate the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within our control, such as milestones which are achieved through regulatory approvals, are considered to be constrained and excluded from the transaction price until those approvals are received. Revenue is recognized following the input method as this is considered to best depict the timing of the transfer of control. This involves measuring actual hours incurred to date as a proportion of the total budgeted hours of the project. At the end of each subsequent reporting period, the proportion of completion is trued-up. We also re-evaluate the probability of achievement of development milestones and any related constraint on a periodic basis, and if necessary, adjust our estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect revenues and earnings in the period of adjustment.

Instruments

Revenue from instrumentation includes the instrumentation equipment, installation, training and other instrumentation services, such as extended warranty services or product maintenance contracts and over the last three years has accounted for

approximately 11-14% of net sales. Revenue from instrumentation equipment is recognized when the customer obtains control of the instrument which is predominantly at the time of delivery or when title has transferred to the customer. Service revenue is recognized over the term of the service period as the customers benefit from the service throughout the service period. Revenue related to services performed on a time-and-materials basis is recognized when performed.

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 December 31, 2020, we had \$23.7 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 December 31, 2020 and 2019 totaled \$8.5 million and \$5.5 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 SaaS arrangements. As of December 31, 2020 and 2019, contract liabilities totaled \$68.9 million and \$56.2 million, respectively, of which \$57.1 million and \$48.5 million is included in accrued and other current liabilities, respectively, and \$11.8 million and \$7.7 million is included in other long-term liabilities, respectively. During the twelve months ended December 31, 2020 and 2019, we satisfied the associated performance obligations and recognized revenue of \$48.1 million and \$48.3 million, respectively, related to advance customer payments previously received.

Disaggregation of Revenue

We disaggregate our revenue based on product type and customer class as shown in the tables below for the years ended December 31, 2020, 2019 and 2018:

(in thousands)	2020	2019	2018
Consumables and related revenues	\$ 774,234	\$ 665,866	\$ 649,602
Instruments	129,742	71,266	82,197
Molecular Diagnostics	903,976	737,132	731,799
Consumables and related revenues	841,201	688,281	665,857
Instruments	125,169	101,011	104,192
Life Sciences	966,370	789,292	770,049
Total	<u><u>\$ 1,870,346</u></u>	<u><u>\$ 1,526,424</u></u>	<u><u>\$ 1,501,848</u></u>

Additionally, we disaggregate our revenue based on product category as shown in the tables below for the years ended December 31, 2020, 2019 and 2018:

(in thousands)	2020	2019	2018
Sample technologies	\$ 803,867	\$ 548,365	\$ 546,636
Diagnostic solutions	460,757	465,503	461,064
PCR / Nucleic acid amplification	363,552	224,685	236,952
Genomics / NGS	165,570	183,768	163,383
Other	76,600	104,103	93,813
Total	<u><u>\$ 1,870,346</u></u>	<u><u>\$ 1,526,424</u></u>	<u><u>\$ 1,501,848</u></u>

Refer to Note 21 "Segment Information" for disclosure of revenue by geographic region.

5. Acquisitions and Divestitures

Business Combinations and Asset Acquisitions

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

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

2020 Business Combinations

In September 2020, we completed the acquisition of the remaining 80.1% of NeuMoDx Molecular, Inc. ("NeuMoDx") shares, a privately-held U.S. company in which we held a minority interest. NeuMoDx designs and develops molecular diagnostics solutions for hospital and clinical reference laboratories. 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, \$8.5 million was retained in an escrow account as of December 31, 2020 which is expected to be fully utilized to cover claims for breach of any representations, warranties or indemnities.

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 accompanying consolidated statement of income. The fair value of the minority interest investment was determined using an implied purchase price reduced by a 20% control premium.

We incurred \$2.5 million acquisition related costs to effect the business combination, of which \$1.8 million was incurred during the year ended December 31, 2020, and are included in restructuring, acquisition, integration and other, net. Revenue and earnings in the reporting period since the acquisition date have not been significant.

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

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

(in thousands)	As of December 31, 2020	As of September 30, 2020	Difference
Purchase Price:			
Cash consideration	\$ 251,730	\$ 251,730	\$ —
Fair value of minority interest	<u>52,727</u>	<u>52,727</u>	—
	\$ 304,457	\$ 304,457	\$ —
 Preliminary Allocation:			
Cash and cash equivalents	\$ 12,291	\$ 12,291	\$ —
Accounts receivable	5,691	5,691	—
Inventories	20,666	18,866	1,800
Prepaid expenses and other current assets	5,961	5,943	18
Accounts payable	(12,450)	(11,168)	(1,282)
Accruals and other current liabilities	(18,929)	(18,770)	(159)
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	157,627	149,877	7,750
Deferred tax asset	12,457	—	12,457
Deferred tax liability on fair value of identifiable intangible assets acquired	<u>(39,002)</u>	<u>(46,440)</u>	7,438
Total	\$ 304,457	\$ 304,457	\$ —

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

Pro forma results

The following unaudited pro forma information assumes that the above acquisition occurred at the beginning of the periods presented. For the year ended December 31, 2020, pro forma net sales would have been \$1.90 billion, pro forma net income would have been \$347.0 million, and pro forma diluted net income per common share would have been \$1.48. For the year ended December 31, 2019, pro forma net sales would have been \$1.53 billion, pro forma net loss would have been \$69.1 million and pro forma diluted net loss per common share would have been \$0.30. 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.

2019 Business Combinations

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

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

Other 2018 Business Combination

In April 2018, we acquired all remaining shares of a privately held entity in which we held a minority interest. The value of the minority interest investment was revalued in connection with the acquisition by \$4.8 million and a corresponding gain was recorded in restructuring, acquisition, integration and other, net in the accompanying consolidated statement of income for the year ended December 31, 2018. This acquisition was not significant to the overall consolidated financial statements. The acquisition did not have a material impact to net sales, net income or earnings per share and therefore no pro forma information has been provided herein.

2019 Asset Acquisition

On January 31, 2019, we acquired the digital PCR asset of Formulatrix, Inc., a developer of laboratory automation solutions. We paid Formulatrix \$125.0 million in cash upon closing. During 2020, we paid the remaining \$135.9 million of milestone payments.

Divestitures

In 2019, we sold a portfolio of protein catalysis products for \$1.0 million. An immaterial gain was recorded on the sale. In 2018, we sold a portfolio of veterinary testing products for a total of €15.1 million (\$18.5 million), of which €13.4 million (\$16.4 million) was received during 2018 and the remaining €1.7 million (\$1.8 million) was collected in 2020. An \$8.0 million gain was recorded on the sale to other income, net in the accompanying consolidated statement of income for the year-ended December 31, 2018.

6. 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 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 consolidated statements of income (loss) due to the assets being deemed excess and no longer utilized due to the discontinued development and related actions discussed above.

In addition, we 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 acquisition attempt by Thermo Fisher or changed as a result of business needs during the pandemic. The following is a summary of the charges recorded in the consolidated statements of income (loss) during the years ended December 31, 2020 and 2019 and total program charges through December 31, 2020.

Classification and Type of Charge (in thousands)	Note	2020	2019	Total program charges through 2020
Restructuring, acquisition, integration and other, net				
Personnel related ⁽¹⁾	(22)	\$ 904	\$ 70,578	\$ 71,482
Contract termination expense ⁽¹⁾		682	42,099	42,781
Consulting fees		1,153	10,150	11,303
Accounts receivable ⁽²⁾		(622)	10,825	10,203
Inventories		1,014	12,336	13,350
Prepaid expenses and other assets ⁽²⁾		127	17,012	17,139
		3,258	163,000	166,258
Long-lived asset impairments				
Property, plant and equipment	(9)	1,034	98,472	99,506
Intangible assets	(11)	—	40,301	40,301
		1,034	138,773	139,807
Other income, net				
Equity method investment impairment	(10)	—	4,799	4,799
		\$ 4,292	\$ 306,572	\$ 310,864

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

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

Of the total costs incurred, \$11.2 million and \$60.2 million are accrued as of December 31, 2020 and 2019, respectively, in accrued and other current liabilities in the accompanying consolidated balance sheets as summarized in the following table that includes the cash components of the restructuring activity.

(in thousands)	Personnel Related	Contract Termination	Consulting Fees	Total
Costs incurred in 2019	\$ 44,640	\$ 42,099	\$ 10,150	\$ 96,889
Payments	(17,272)	(18,294)	(2,162)	(37,728)
Foreign currency translation adjustment	631	493	(53)	1,071
Liability at December 31, 2019	27,999	24,298	7,935	60,232
Additional costs incurred in 2020	4,542	1,639	1,661	7,842
Release of excess accrual	(3,638)	(957)	(508)	(5,103)
Payments	(24,355)	(18,319)	(9,028)	(51,702)
Foreign currency translation adjustment	139	(230)	(12)	(103)
Liability at December 31, 2020	<u>\$ 4,687</u>	<u>\$ 6,431</u>	<u>\$ 48</u>	<u>\$ 11,166</u>

Future pre-tax costs between \$5 - \$10 million are expected to be incurred, primarily related to personnel and consulting, in the first half of 2021.

2017 Restructuring

We initiated restructuring initiatives in 2017 to mitigate the negative impacts stemming from the U.S. tax reform. Total pre-tax costs for the initiatives, which concluded in 2018, were \$24.4 million. Cumulative costs for this program were as follows:

(in thousands)	Personnel Related	Contract and Other Costs	Inventory Write-offs & Asset Impairments	Total
Cost of sales	\$ —	\$ —	\$ 3,039	\$ 3,039
Restructuring, acquisition, integration and other, net	6,174	4,583	—	10,757
Total 2017 costs	<u>6,174</u>	<u>4,583</u>	<u>3,039</u>	<u>13,796</u>
Cost of sales	424	1,193	—	1,617
Restructuring, acquisition, integration and other, net	4,207	4,232	1,610	10,049
Total 2018 costs	<u>4,631</u>	<u>5,425</u>	<u>1,610</u>	<u>11,666</u>
Restructuring, acquisition, integration and other, net	(1,100)	—	—	(1,100)
Total 2019 releases	<u>(1,100)</u>	<u>—</u>	<u>—</u>	<u>(1,100)</u>
Total cumulative costs	<u>\$ 9,705</u>	<u>\$ 10,008</u>	<u>\$ 4,649</u>	<u>\$ 24,362</u>

During 2018, fixed asset impairments of \$1.6 million were recorded in connection with this initiative and are included within long-lived asset impairments in the accompanying consolidated statement of income.

7. Short-Term Investments

As of December 31, 2020 and 2019, short-term investments consisted of the following:

(in thousands)	2020	2019
Marketable equity securities	\$ 117,249	\$ —
Money market deposits	—	87,468
Commercial paper	—	22,459
Loans receivable	—	19,659
Total	<u>\$ 117,249</u>	<u>\$ 129,586</u>

At December 31, 2020, short-term investments include the fair value of our marketable equity securities totaling \$117.2 million. These investments, further discussed in Note 10 "Investments", are reported at fair value with gains and losses recorded in earnings.

At December 31, 2019 we had \$129.6 million (\$65.0 million and €57.5 million) of money market deposits, commercial paper and loan receivables due from financial and nonfinancial institutions. These instruments are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and are carried at fair market value, which is equal to the

cost. All instruments are classified as current assets in the accompanying balance sheet as they either have a maturity of less than one year or are redeemable at our discretion. Interest income is determined using the effective interest rate method.

8. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets are summarized as follows as of December 31, 2020 and 2019:

(in thousands)	Note	2020	2019
Prepaid expenses		\$ 61,159	\$ 39,930
Cash collateral	(14)	56,100	2,683
Other receivables		32,901	29,486
Value added tax		31,128	20,347
Loan receivables		17,094	7,539
Contract assets	(4)	8,539	5,479
Total prepaid expenses and other current assets		<u>\$ 206,921</u>	<u>\$ 105,464</u>

9. Property, Plant and Equipment

Property, plant and equipment of December 31, 2020 and 2019 were as follows:

(in thousands)	Estimated useful life (in years)	2020	2019
Land	—	\$ 18,903	\$ 17,684
Buildings and improvements	5-40	362,902	341,032
Machinery and equipment	3-10	322,379	292,294
Computer software	3-7	260,730	301,604
Furniture and office equipment	3-10	108,339	102,901
Construction in progress	—	116,562	98,858
		<u>1,189,815</u>	<u>1,154,373</u>
Less: Accumulated depreciation and amortization		(630,443)	(699,130)
Property, plant and equipment, net		<u>\$ 559,372</u>	<u>\$ 455,243</u>

In 2019, we began restructuring initiatives to target resource allocation to growth opportunities in our Sample to Insight portfolio and in connection therewith, we recorded impairments. Asset impairment charges for the years ended December 31, 2020, 2019 and 2018 were as follows:

(in thousands)	2020	2019	2018
Machinery and equipment	\$ 77	\$ 9,177	\$ —
Computer software	—	44,649	2,911
Furniture and office equipment	315	4,030	—
Construction in progress	642	41,870	4,979
Total impairment in property, plant and equipment	<u>\$ 1,034</u>	<u>\$ 99,726</u>	<u>\$ 7,890</u>

During the year ended December 31, 2020, \$1.0 million of impairments were related to the 2019 Restructuring program discussed in Note 6 "Restructuring and Impairments". In 2019, \$98.5 million of impairments were related to the 2019 Restructuring program while the remaining \$1.2 million were related to other identified impairments during the year. In 2018, we recorded asset impairment charges of \$7.9 million of internal-use software of which \$1.6 million were related to the 2017 Restructuring program discussed in Note 6 and \$6.3 million were related to strategic shifts in our business.

For the years ended December 31, 2020, 2019 and 2018 depreciation and amortization expense totaled \$78.6 million, \$86.0 million and \$87.9 million, respectively. For the years ended December 31, 2020, 2019 and 2018 amortization related to computer software to be sold, leased or marketed totaled \$7.4 million, \$18.3 million and \$17.2 million, respectively. Impairment charges related to computer software to be sold, leased or marketed are included in computer software and construction in progress in the table above and totaled \$65.9 million for the year ended December 31, 2019. As of

December 31, 2020 and 2019, the unamortized balance of computer software to be sold, leased or marketed was \$50.5 million and \$36.6 million, respectively.

Repairs and maintenance expense was \$13.8 million, \$10.7 million and \$12.1 million in 2020, 2019 and 2018, respectively. For the year ended December 31, 2020, construction in progress primarily includes amounts related to projects to expand production lines as well as increase capacity of manufacturing as well as ongoing software development projects. For the years ended December 31, 2020, 2019 and 2018, interest capitalized in connection with construction projects was not significant.

10. Investments

Marketable Equity Securities

We hold investments in marketable equity securities that have readily determinable fair values. Since January 1, 2018, these investments are reported at fair value with gains and losses recorded in earnings.

As of December 31, 2020, our investments in marketable equity securities totaled \$117.5 million, of which \$117.2 million are included in short-term investments and \$0.3 million are included in other long-term assets in the accompanying consolidated balance sheet, as follows:

(in thousands, except shares held)	Short-Term			Long-Term	
	Invitae Corporation (Invitae)	OncoCyte Corporation (OncoCyte)	Oncimmune Holdings plc (Oncimmune)	HTG Molecular Diagnostics, Inc (HTGM)	
Shares held	2,769,189	88,101	560,416	55,556	
Cost basis	\$ —	\$ —	\$ —	\$ —	\$ 2,000
Fair value	\$ 115,780	\$ 211	\$ 1,258	\$ 266	
Total cumulative unrealized gain (loss)	\$ 115,780	\$ 211	\$ 1,258	\$ 266	(1,734)

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

In 2020, we received 2.4 million shares of Invitae as part of the initial consideration for the sale of our ArcherDX shares, followed by an earn-out of an additional 0.4 million Invitae shares. Additionally in 2020, we received 0.1 million shares in OncoCyte. These transactions are discussed further below. In February 2021, we sold 2.4 million shares of Invitae for \$101.5 million.

During the year ended December 31, 2020, unrealized losses recognized for the change in fair market value of all marketable equity securities totaled \$5.7 million of which \$5.4 million is attributable to short-term investments and \$0.3 million to long-term investments.

As of December 31, 2019, these marketable securities are included in other long-term assets in the accompanying consolidated balance sheet as follows:

(in thousands, except shares held)	Long-Term	
	Oncimmune	HTGM
Shares held	560,416	833,333
Cost basis	\$ —	\$ 2,000
Fair value	\$ 285	\$ 585
Total cumulative unrealized gain (loss)	\$ 285	\$ (1,415)

During 2019, we received 0.6 million shares in Oncimmune in settlement of a zero-book value financial instrument held with a third party. On the date of receipt, these shares held a fair value of \$0.7 million which was recorded as a gain in other income, net for the year ended December 31, 2019.

During the years ended December 31, 2019 and 2018 unrealized losses recognized for the change in fair market value of all marketable equity securities totaled \$2.1 million and \$0.1 million, respectively.

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

A summary of our non-marketable investments accounted for as equity method investments is as follows:

(\$ in thousands)	Ownership Percentage	Equity investments as of December 31,		Share of income (loss) for the years ended December 31,		
		2020	2019	2020	2019	2018
PreAnalytiX GmbH	50.00 %	\$ 4,761	\$ 5,452	\$ 3,070	\$ 3,971	\$ 4,062
Suzhou Fuda Business Management and Consulting Partnership	33.67 %	3,301	3,100	—	—	—
Apis Assay Technologies Ltd	19.00 %	1,940	719	1,221	(51)	—
TVM Life Science Ventures III	3.10 %	1,545	1,219	630	(330)	—
Hombrechtikon Systems Engineering AG	19.00 %	(530)	(761)	97	(1,124)	(668)
MAQGEN Biotechnology Co., Ltd	40.00 %	—	—	—	(383)	(579)
Biotype Innovation GmbH	0.00 %	—	—	—	—	(123)
Pyrobett	0.00 %	—	—	—	—	(100)
		\$ 11,017	\$ 9,729	\$ 5,018	\$ 2,083	\$ 2,592

TVM Life Science Ventures III is a limited partnership and we account for our 3.1% investment under the equity method as we have the ability to exercise significant influence over the limited partnership. Of the \$11.0 million of non-marketable investments accounted for as equity method investments, \$11.5 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 consolidated balance sheet as of December 31, 2020.

During the year ended December 31, 2019, we recorded an impairment of \$4.8 million in other income, net in the accompanying consolidated statements of income, following changes in circumstances of MAQGEN Biotechnology Co., Ltd that indicated the carrying value was no longer recoverable. Accordingly, the investment was fully impaired.

In 2018, we recorded impairments totaling \$6.1 million in other income, net in the accompanying consolidated statements of income, following changes in the investees' circumstances that indicated the carrying value was no longer recoverable.

Three of our equity method investments are variable interest entities and we are not the primary beneficiary as we do not hold the power to direct the activities that most significantly impact the economic performance. Therefore, these investments are not consolidated. As of December 31, 2020, these investments had a total net carrying value of \$3.0 million, of which \$3.5 million is included in other long-term assets and \$0.5 million is included in other long-term liabilities in the accompanying consolidated balance sheet. As of December 31, 2019, these investments held a balance of \$1.2 million, of which \$1.9 million is included in other long-term assets and \$0.8 million is included in other long-term liabilities in the accompanying consolidated balance sheet. These balances represent our maximum exposure to loss.

Non-Marketable Investments Not Accounted for Under the Equity Method

At December 31, 2020 and 2019, we had investments in non-publicly traded companies that do not have readily determinable fair values with carrying amounts that totaled \$4.1 million and \$70.8 million, respectively. The changes in these investments which 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 for the years ended December 31, 2020 and 2019 are as follows:

(in thousands)	2020	2019
Balance at beginning of year	\$ 70,849	\$ 59,484
Full acquisition of equity securities	(41,001)	—
Sale of equity securities	(23,812)	—
Loss on sale of equity securities	(2,250)	—
Impairments	(398)	—
Cash investments in equity securities, net	173	3,619
Net increases due to observable price changes	—	7,760
Foreign currency translation adjustments	581	(14)
Balance at end of year	\$ 4,142	\$ 70,849

2020 Changes in Non-Marketable Investments Not Accounted for Under the Equity Method

During 2020, we acquired the remaining shares of NeuMoDx as further discussed in Note 5 "Acquisitions and Divestitures".

In 2020, Invitae Corporation ("Invitae"), a publicly traded company (NVTA), completed the acquisition of ArcherDX, Inc. ("ArcherDX"), a company in which we held an approximate 8% investment. In exchange for our shares in ArcherDX, we initially received cash of \$21.1 million and 2.4 million shares in Invitae followed by an additional 0.4 million shares for milestone achievement. For the year ended December 31, 2020, we recognized a total gain of \$123.3 million in other income, net in the accompanying consolidated statement of income as a result of this transaction. We are entitled to up to 1.7 million additional Invitae shares subject to milestone achievement.

We sold an investment with a carrying value of \$2.5 million in exchange for cash of \$0.3 million including the shares in OncoCyte, as discussed above. A loss of \$2.3 million was recognized in other income, net in the accompanying consolidated statement of income on the sale of this investment.

We sold another investment for its book value and received \$3.7 million in cash.

In 2020, we recorded a \$0.4 million impairment in other income, net in the accompanying consolidated statement of income due following indications that the carrying value was no longer recoverable. Accordingly, the investment was fully impaired.

For non-marketable investments not accounted for under the equity method as of December 31, 2020, cumulative upward adjustments for price changes was \$0.7 million. These adjustments were due to equity offerings at a higher price from the issuer in orderly transactions for identical or similar investments as those we hold.

11. Goodwill and Intangible Assets

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

(in thousands)	Weighted Average Life (in years)	2020		2019	
		Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Amortized Intangible Assets:					
Patent and license rights	10.50	\$ 298,395	\$ (197,038)	\$ 320,406	\$ (216,554)
Developed technology	10.74	860,129	(378,705)	766,966	(346,085)
Customer base, trademarks, and non-compete agreements	12.02	314,876	(233,981)	314,638	(213,881)
	10.86	\$ 1,473,400	\$ (809,724)	\$ 1,402,010	\$ (776,520)
Unamortized Intangible Assets:					
In-process research and development		\$ 62,518		\$ 6,944	
Goodwill		2,364,031		2,140,503	
		\$ 2,426,549		\$ 2,147,447	

The in-process research and development as of December 31, 2020 is associated to the acquisitions of NeuMoDx in 2020 and STAT-Dx in 2018. The estimated fair value of acquired in-process research and development projects which have not reached technological feasibility at the date of acquisition are capitalized and subsequently tested for impairment through completion of the development process, at which point the capitalized amounts are amortized over their estimated useful life. If a project is abandoned rather than completed, all capitalized amounts are written-off immediately.

Developed technology includes the acquired intangibles from NeuMoDx and the digital PCR asset from Formulatrix as discussed in Note 5 "Acquisitions and Divestitures" which are both being amortized over 10 years.

The changes in intangible assets for the years ended December 31, 2020 and 2019 are as follows:

(in thousands)	2020	2019
Balance at beginning of year	\$ 632,434	\$ 475,043
Additions	24,007	286,159
Additions from acquisitions	157,170	36,458
Amortization	(103,230)	(122,560)
Disposals	(537)	—
Impairments	—	(40,301)
Foreign currency translation adjustments	16,350	(2,365)
Balance at end of year	<u>\$ 726,194</u>	<u>\$ 632,434</u>

Cash paid for purchases of intangible assets during the twelve months ended December 31, 2020 totaled \$171.5 million, of which \$146.1 million is related to current year payments for assets that were accrued as of December 31, 2019, \$24.0 million of current year additions and \$1.4 million for prepayments recorded in other long-term assets in the accompanying consolidated balance sheet.

Cash paid for intangible assets during the year ended December 31, 2019 totaled \$156.9 million of which \$11.5 million is related to current year payments for licenses that were accrued as of December 31, 2018 and \$0.5 million is related to prepayments recorded in other long-term assets in accompanying consolidated balance sheet. Intangible asset additions of \$286.2 million includes \$144.9 million of cash paid during the year ended December 31, 2019, together with \$137.8 million of additions that were accrued as of December 31, 2019 and \$3.5 million of additions which were previously recorded as prepayments.

Amortization expense on intangible assets totaled approximately \$103.2 million, \$122.6 million and \$118.6 million, respectively, for the years ended December 31, 2020, 2019 and 2018. During the year ended December 31, 2019, we recorded an impairment charge of \$40.3 million related to the restructuring activities discussed further in Note 6 "Restructuring and Impairments" of which \$28.1 million is related to patent and license rights and \$12.1 million is related to developed technology.

Amortization of intangibles for the next five years is expected to be approximately:

Years ended December 31, (in thousands)		
2021	\$	103,485
2022	\$	89,734
2023	\$	87,355
2024	\$	83,520
2025	\$	71,130

The changes in goodwill for the years ended December 31, 2020 and 2019 are as follows:

(in thousands)	2020	2019
Balance at beginning of year	\$ 2,140,503	\$ 2,108,536
Business combinations	157,627	34,807
Purchase adjustments	3,382	(236)
Disposals	—	(225)
Foreign currency translation adjustments	62,519	(2,379)
Balance at end of year	<u>\$ 2,364,031</u>	<u>\$ 2,140,503</u>

The changes in the carrying amount of goodwill during the year ended December 31, 2020 resulted primarily from the acquisition of NeuMoDx discussed in Note 5 "Acquisitions and Divestitures" and changes in foreign currency translation. The changes in goodwill during the year ended December 31, 2019 resulted primarily from the acquisition of N-of-One, Inc. and other acquisitions and divestitures also discussed in Note 5 "Acquisitions and Divestitures" and changes in foreign currency translation.

12. Leases

We have operating leases primarily for real estate. The leases generally have terms which range from one year to 15 years, some include options to extend or renew, and some include options to early terminate the leases. As of December 31, 2020 and 2019, no such options have been recognized as part of the right-of-use assets and lease liabilities.

Operating leases can contain variable lease charges based on an index like consumer prices or rates. During the year ended December 31, 2020 and 2019, amounts recorded as variable lease payments not included in the operating lease liability were not material.

When the interest rate implicit in each lease is not readily determinable, we apply our incremental borrowing rate in determining the present value of lease payments. All operating lease expense is recognized on a straight-line basis over the lease term. For the years ended December 31, 2020 and 2019, we recognized \$25.0 million and \$24.4 million in total lease costs, respectively.

Supplemental balance sheet and other information related to operating leases as of December 31, 2020 and 2019 are as follows:

(in thousands, except lease term and discount rate)	Location in balance sheet	2020	2019
Operating lease right-of-use assets	Other long-term assets	\$ 102,522	\$ 57,305
Current operating lease liabilities	Accrued and other current liabilities	\$ 23,450	\$ 18,739
Long-term operating lease liabilities	Other long-term liabilities	\$ 85,585	\$ 39,631
Weighted average remaining lease term		7.04 years	3.71 years
Weighted average discount rate		1.89%	2.39%

Supplemental cash flow information related to operating leases for the years ended December 31, 2020 and 2019 are as follows:

(in thousands)	2020	2019
Cash paid for operating leases included in operating cash flows	\$ 24,193	\$ 26,113
Operating lease right-of-use assets obtained in exchange for lease obligations	\$ 58,992	\$ 24,670

Future maturities of operating lease liabilities as of December 31, 2020 are as follows:

Years ending December 31, (in thousands)	
2021	\$ 25,353
2022	20,993
2023	16,280
2024	10,790
2025	6,707
Thereafter	36,878
Total lease payments	117,001
Less: imputed interest	(7,966)
Total	\$ 109,035

As of December 31, 2020, we do not have any material operating leases that have not yet commenced. We did not hold any material finance leases as of December 31, 2020 and 2019.

13. Accrued and Other Current Liabilities

Accrued and other current liabilities at December 31, 2020 and 2019 consist of the following:

(in thousands)	Note	2020	2019
Payroll and related accruals		\$ 99,085	\$ 66,866
Other liabilities		67,244	54,241
Deferred revenue	(4)	57,066	48,525
Accrued expenses		51,026	38,963
Accrued contingent consideration and milestone payments	(15)	23,593	142,604
Operating lease liabilities	(12)	23,450	18,739
Restructuring	(6)	11,599	62,227
Accrued royalties	(20)	7,427	5,481
Accrued interest on long-term debt	(16)	4,575	5,257
Cash collateral	(14)	600	1,400
Total accrued and other current liabilities		\$ 345,665	\$ 444,303

14. 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 December 31, 2020, cash collateral positions consisted of \$0.6 million recorded in accrued and other current liabilities and \$56.1 million recorded in prepaid expenses and other current assets. As of December 31, 2019, we had cash collateral positions consisting of \$1.4 million recorded in accrued and other current liabilities and \$2.7 million recorded in prepaid expenses and other current assets in the accompanying 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 16 "Debt". Of the \$331.1 million, which is held in both U.S. dollars and Euros, €255.0 million is designated as the hedging instrument against a portion of our Euro net investments in our foreign operations. The relative changes in both the hedged item and hedging instrument are calculated by applying the change in spot rate between two assessment dates against the respective notional amount. The effective portion of the hedge is recorded in the cumulative translation adjustment account within other accumulated comprehensive loss. Based on the spot rate method, the unrealized loss recorded in equity as of December 31, 2020 and 2019 is \$26.9 million and \$0.4 million, respectively. Since we are using the debt as the hedging instrument, which is also remeasured based on the spot rate method, there is no hedge ineffectiveness related to the net investment hedge as of December 31, 2020 and 2019.

Derivatives Designated as Hedging Instruments

Cash Flow Hedges

As of December 31, 2020 and 2019, we held derivative instruments that are designated and qualify as cash flow hedges, where the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive loss and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings. To date, we have not recorded any hedge ineffectiveness related to any cash-flow hedges in

earnings. Based on their valuation as of December 31, 2020, we expect approximately \$3.6 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 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 December 31, 2020 and 2019, interest receivables of \$1.1 million and \$1.5 million, respectively are recorded in prepaid expenses and other current assets in the accompanying consolidated balance sheets.

Fair Value Hedges

As of December 31, 2020 and 2019, we held derivative instruments that qualify for hedge accounting as fair value hedges. For derivative instruments that are designated and qualify as a fair value hedge, the effective portion of the gain or loss on the derivative is reflected in earnings. This effect on earnings is offset by the change in the fair value of the hedged item attributable to the risk being hedged that is also recorded in earnings. To date, there has been no ineffectiveness. The cash flows derived from derivatives are classified in the consolidated statements of cash flows in the same category as the 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 December 31, 2020 and 2019, interest receivables of \$0.6 million and \$0.1 million, respectively, are recorded in prepaid and other current assets in the accompanying 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 16 "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 require 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 15 "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 consolidated statements of income (loss) in other income, 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 16 "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 consolidated statements of income (loss) in other income, 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 15 "Financial Instruments and Fair Value Measurements".

Embedded Conversion Option

During 2017, we purchased a convertible note for \$3.0 million from a publicly listed company considered a related party. The embedded conversion option within the convertible note was required to be separated from the convertible note and accounted for separately as a derivative liability, with changes in fair value reported in our consolidated statements of income (loss) in other income, net. The embedded cash conversion option was measured and reported at fair value on a recurring basis, within Level 2 of the fair value hierarchy. During 2020, \$3.2 million was collected including the principal including accrued interest.

For further discussion of the inputs used to determine the fair value of the embedded cash conversion option, refer to Note 15 "Financial Instruments and Fair Value Measurements".

Foreign Exchange Contracts

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 December 31, 2020 and 2019, aggregate notional values of \$1.3 billion and \$701.4 million, respectively which expire at various dates through March 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, net.

Fair Values of Derivative Instruments

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

(in thousands)	2020		2019	
	Current Asset	Long-Term Asset	Current Asset	Long-Term Asset
Assets:				
Derivative instruments designated as hedges				
Interest rate contracts - fair value hedge ⁽¹⁾	\$ —	\$ 5,042	\$ —	\$ 2,474
Total derivative instruments designated as hedges	<u>\$ —</u>	<u>\$ 5,042</u>	<u>\$ —</u>	<u>\$ 2,474</u>
Undesignated derivative instruments				
Equity options	\$ 2,415	\$ 374,038	\$ 101,179	\$ 189,792
Foreign exchange forwards and options	11,712	—	6,689	—
Total undesignated derivative instruments	<u>\$ 14,127</u>	<u>\$ 374,038</u>	<u>\$ 107,868</u>	<u>\$ 189,792</u>
Total Derivative Assets	<u>\$ 14,127</u>	<u>\$ 379,080</u>	<u>\$ 107,868</u>	<u>\$ 192,266</u>
(in thousands)	2020		2019	
	Current Liability	Long-Term Liability	Current Liability	Long-Term Liability
Liabilities:				
Derivative instruments designated as hedges				
Interest rate contracts - cash flow hedge ⁽¹⁾	\$ —	\$ (17,409)	\$ —	\$ (6,027)
Total derivative instruments designated as hedges	<u>\$ —</u>	<u>\$ (17,409)</u>	<u>\$ —</u>	<u>\$ (6,027)</u>
Undesignated derivative instruments				
Equity options	\$ (5,966)	\$ (376,046)	\$ (101,361)	\$ (190,902)
Foreign exchange forwards and options	(45,498)	—	(1,814)	—
Total undesignated derivative instruments	<u>\$ (51,464)</u>	<u>\$ (376,046)</u>	<u>\$ (103,175)</u>	<u>\$ (190,902)</u>
Total Derivative Liabilities	<u>\$ (51,464)</u>	<u>\$ (393,455)</u>	<u>\$ (103,175)</u>	<u>\$ (196,929)</u>

⁽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 years ended December 31, 2020, 2019 and 2018:

(in thousands)	2020	2019	2018
	Other income, net	Other income, net	Other income, net
Total amounts presented in the Consolidated Statements of Income in which the effects of cash flow and fair value hedges are recorded	\$ 114,326	\$ 432	\$ 5,598
Gains (Losses) on Derivatives in Cash Flow Hedges			
Interest rate contracts			
Amount of gain (loss) reclassified from accumulated other comprehensive loss	\$ 18,666	\$ (3,888)	\$ (9,774)
Amounts excluded from effectiveness testing	—	—	—
Gains (Losses) on Derivatives in Fair Value Hedges			
Interest rate contracts			
Hedged item	(2,568)	(3,668)	2,051
Derivatives designated as hedging instruments	2,568	3,668	(2,051)
Gains (Losses) Derivatives Not Designated as Hedging Instruments			
Embedded conversion option			
—	—	(349)	131
Equity options	322,580	(104,125)	74,682
Cash convertible notes embedded cash conversion option	(321,213)	106,998	(76,500)
Foreign exchange forwards and options	(12,429)	1,835	(19,857)
Total gains (losses)	\$ 7,604	\$ 471	\$ (31,318)

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 December 31, 2020 and 2019:

(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)	
	2020	2019	2020	2019
Long-term debt	\$ (131,923)	\$ (129,290)	\$ 5,042	\$ 2,474

15. 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 10 "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 16 "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 during the year ended December 31, 2020 and 2019 are

classified within Level 3 in the fair value hierarchy. There were no transfers between levels for the year ended December 31, 2020.

In determining fair value for Level 2 instruments, we apply a market approach, using quoted active market prices relevant to the particular instrument under valuation, 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 16 "Debt", and Note 14 "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 consolidated statements of income (loss) in the line items commensurate with the underlying nature of milestone arrangements.

The following table presents our fair value hierarchy for our financial assets and liabilities measured at fair value on a recurring basis as of December 31, 2020 and 2019:

(in thousands)	2020			2019				
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Short-term investments	\$ —	\$ —	\$ —	\$ —	\$ 129,586	\$ —	\$ —	\$ 129,586
Marketable equity securities	117,515	—	—	117,515	870	—	—	870
Non-marketable equity securities	—	—	4,142	4,142	—	—	70,849	70,849
Equity options	—	376,453	—	376,453	—	290,971	—	290,971
Foreign exchange forwards and options	—	11,712	—	11,712	—	6,689	—	6,689
Interest rate contracts	—	5,042	—	5,042	—	2,474	—	2,474
	\$ 117,515	\$ 393,207	\$ 4,142	\$ 514,864	\$ 870	\$ 429,720	\$ 70,849	\$ 501,439
Liabilities:								
Foreign exchange forwards and options	\$ —	\$ (45,498)	\$ —	\$ (45,498)	\$ —	\$ (1,814)	\$ —	\$ (1,814)
Interest rate contracts	—	(17,409)	—	(17,409)	—	(6,027)	—	(6,027)
Equity options	—	(382,012)	—	(382,012)	—	(292,263)	—	(292,263)
Contingent consideration	—	—	(23,593)	(23,593)	—	—	(162,160)	(162,160)
	\$ —	\$ (444,919)	\$ (23,593)	\$ (468,512)	\$ —	\$ (300,104)	\$ (162,160)	\$ (462,264)

Refer to Note 10 "Investments" for the change in non-marketable equity securities with Level 3 inputs during the year ended December 31, 2020 and 2019. For contingent consideration liabilities with Level 3 inputs, the following table summarizes the activity for the years ended December 31, 2020 and 2019:

(in thousands)	2020	2019
Balance at beginning of year	\$ (162,160)	\$ (48,971)
Additions from acquisitions	(3,223)	(132,422)
Payments	141,790	11,800
Gain included in earnings	—	7,433
Balance at end of year	\$ (23,593)	\$ (162,160)

As of December 31, 2020, we had \$23.6 million accrued for contingent consideration which is included in accrued and other current liabilities in the accompanying consolidated balance sheet. As of December 31, 2020, the \$3.2 million of additions is related to the time value increases of existing contingent consideration liabilities related to both the 2019 asset acquisition of Formulatrix discussed in Note 5 "Acquisitions and Divestitures" as well as the 2018 acquisition of STAT-Dx. During 2019, a gain for the reduction in the fair value of contingent consideration related to unmet milestones of \$7.4 million was recognized in restructuring, acquisition, integration and other, net in the accompanying consolidated statements of income (loss) and additions of \$132.4 million primarily related to the asset acquisition of Formulatrix as discussed in Note 5.

The carrying values of financial instruments, including cash and cash equivalents, accounts receivable, accounts payable and other accrued liabilities, approximate their fair values due to their short-term maturities. The estimated fair value of long-term debt as disclosed in Note 16 "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. There were no fair value differences in the years ended December 31, 2020 and 2019 for nonfinancial assets or liabilities required to be measured at fair value on a nonrecurring basis other than the impairments of non-marketable investments not accounted for under the equity method as discussed in Note 10.

The table below presents the carrying values and the estimated fair values of financial instruments not presented in the tables above as of December 31, 2020 and 2019.

(in thousands)	2020			2019		
	Carrying Amount	Level 1	Level 2	Carrying Amount	Level 1	Level 2
Long-term debt including current portion:						
Cash convertible notes	\$ 791,000	\$ 1,167,201	\$ —	\$ 1,046,511	\$ 1,296,334	\$ —
Convertible notes	442,481	510,930	—	—	—	—
U.S. Private placement	331,717	—	337,747	328,984	—	329,157
German private placement	357,551	—	361,957	330,857	—	334,371
	\$ 1,922,749	\$ 1,678,131	\$ 699,704	\$ 1,706,352	\$ 1,296,334	\$ 663,528

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

Cash Convertible Notes and Convertible Notes: Fair value is based on an estimation using available over-the-counter market information on the Cash Convertible Notes due in 2021, 2023 and 2024 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 twelve-month periods ended December 31, 2020, 2019 or 2018 for nonfinancial assets or liabilities required to be measured at fair value on a nonrecurring basis.

16. Debt

At December 31, 2020 and 2019, total current long-term debt, net of debt issuance costs of \$10.7 million and \$10.8 million, respectively, consists of the following:

(in thousands)	2020	2019
0.875% Senior Unsecured Cash Convertible Notes due 2021	\$ 200	\$ 285,244
0.500% Senior Unsecured Cash Convertible Notes due 2023	361,304	347,995
1.000% Senior Unsecured Cash Convertible Notes due 2024	429,496	413,272
0.000% Senior Unsecured Convertible Notes due 2027	442,481	—
3.75% Series B Senior Notes due October 16, 2022	304,761	302,040
3.90% Series C Senior Notes due October 16, 2024	26,956	26,944
German Private Placement (Schuldschein)	357,551	330,857
Total long-term debt	1,922,749	1,706,352
Less current portion	42,539	285,244
Long-term portion	\$ 1,880,210	\$ 1,421,108

The notes are all unsecured obligations that rank pari passu. Interest expense on long-term debt was \$63.5 million, \$68.0 million and \$61.2 million for the years ended December 31, 2020, 2019 and 2018, respectively.

In 2020, we repaid \$296.4 million of the 2021 Notes, leaving \$0.2 million outstanding as of December 31, 2020, which will be repaid at the original maturity on March 19, 2021.

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

Future maturities (stated at the carrying values) of long-term debt as of December 31, 2020, are as follows:

Years ending December 31, (in thousands)	
2021	\$ 42,539
2022	485,795
2023	361,304
2024	572,870
2025	—
thereafter	460,241
	\$ 1,922,749

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 \$1.3 million was accrued as of December 31, 2020.

In accounting for the issuance of the 2027 Notes, 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.

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 cash 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 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 2019, 2021, 2023, and 2024

On March 19, 2014, we issued \$730.0 million aggregate principal amount of Cash Convertible Senior Notes in two tranches consisting of \$430.0 million due on March 19, 2019 (2019 Notes) and \$300.0 million due on March 19, 2021 (2021 Notes). The aggregate net proceeds of the 2019 and 2021 Convertible Notes were \$680.7 million, after payment of the net cost of the Call Spread Overlay described below and transaction costs. During 2019, \$430.0 million was paid at maturity (2019 Notes) and \$3.4 million of the 2021 Notes was redeemed. In 2020, a total of \$296.4 million of the 2021 Notes was repaid, leaving \$0.2 million outstanding as of December 31, 2020, which will be repaid at the original maturity on March 19, 2021.

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 the net cost of the Call Spread Overlay described below and transaction costs.

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 the net cost of the Call Spread Overlay described below and transaction costs.

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

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

Cash Convertible Notes	Annual Interest Rate	Date of Interest Payments	Maturity Date	Contingent Conversion Period	Conversion Rate per \$200,000 Principal Amount
2021 Notes	0.875%	March 19 and September 19	March 19, 2021	From April 29, 2014 to September 18, 2020	7,063.1647
2023 Notes	0.500%	March 13 and September 13	September 13, 2023	From October 24, 2017 to March 13, 2023	4,829.7279
2024 Notes	1.000%	May 13 and November 13	November 13, 2024	From 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 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 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 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 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 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;
- 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, 2023, 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, 2023 and 2024 Notes (i.e., the host contracts). As a result, pursuant to the accounting provisions of ASC 815, *Derivatives and Hedging*, the Contingent Conversion Conditions 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 December 31, 2020.

Upon conversion, holders are entitled to a cash payment (Cash Settlement Amount) equal to the average of the conversion rate multiplied by the daily volume-weighted average trading price for our common stock over a 50-day period. The conversion rate is subject to adjustment in certain instances but will not be adjusted for any accrued and unpaid interest. In addition, following the occurrence of certain corporate events that may occur prior to the applicable maturity date, we may be required to pay a cash 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 consolidated statements of income (loss) until the cash conversion option transaction settles or expires. The initial fair value liability of the embedded cash conversion option for the 2019 and 2021 Notes was \$51.2 million and \$54.0 million, respectively, \$74.5 million for the 2023 Notes, and \$98.5 million for the 2024 Notes, which simultaneously reduced the carrying value of the Cash Convertible Notes (effectively an original issuance discount). For further discussion of the derivative financial instruments relating to the Cash Convertible Notes, refer to Note 14 "Derivatives and Hedging".

As noted above, the reduced carrying value on the Cash Convertible Notes resulted in a debt discount that is amortized to the principal amount through the recognition of non-cash interest expense using the effective interest method over the expected life of the debt, which is five and seven for the 2019 Notes and 2021 Notes, and six years for the 2023 Notes and 2024 Notes, respectively. This resulted in our recognition of interest expense on the Cash Convertible Notes at an effective rate approximating what we would have incurred had nonconvertible debt with otherwise similar terms been issued. The effective interest rate of the 2019 Notes, 2021 Notes, 2023 Notes and 2024 Notes is 2.937%, 3.809%, 3.997% and 4.782% respectively, which is imputed based on the amortization of the fair value of the embedded cash conversion option over the remaining term of the Cash Convertible Notes.

In connection with the issuance of the 2019 and 2021 Cash Convertible Notes, we incurred approximately \$13.1 million in transaction costs. We incurred approximately \$6.2 million in transaction costs for the 2023 Cash Convertible Notes. For 2024 Cash Convertible Notes, we incurred \$5.7 million transaction costs. Such costs have been allocated to the Cash Convertible

Notes and deferred and are being amortized to interest expense over the terms of the Cash Convertible Notes using the effective interest method.

Interest expense for the years ended December 31, 2020 and 2019 related to the 2027 Notes and the Cash Convertible Notes was comprised of the following:

(in thousands)	2020	2019
Coupon interest	\$ 9,025	\$ 9,954
Amortization of original issuance discount	38,229	36,966
Amortization of debt issuance costs	2,942	3,014
Total interest expense	<u>\$ 50,196</u>	<u>\$ 49,934</u>

Cash Convertible Notes Call Spread Overlay

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

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

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

The Call Options are derivative financial instruments and are discussed further in Note 14 "Derivatives and Hedging". The Warrants are equity instruments and are further discussed in Note 18 "Equity".

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

During 2019, we received \$133.2 million in cash upon the exercise of the call options in connection with the repayment of the 2019 Notes. In the same transaction, we paid \$132.7 million for the intrinsic value of the 2019 Notes' embedded cash conversion option. The net effect of the cash paid and received of \$0.5 million was recognized as a gain in other income, net. In connection with the early conversion of a portion of 2021 Notes during 2019, we received \$1.5 million upon the exercise of the related call options. Also, we paid \$1.1 million for the intrinsic value of the 2021 Notes' embedded cash conversion option. As a result of these early conversions, a gain of \$0.4 million was recognized in other income, net.

During 2020, while the 2021 Notes were contingently convertible, we received conversion notices for \$119.4 million of outstanding principal. In December 2020, we initiated a tender offer and repurchased a further \$177.0 million of outstanding principal. In connection with these transactions, we received \$239.8 million in cash upon the exercise of the call options and we paid \$237.4 million for the intrinsic value of the 2021 Notes' embedded cash conversion option. The net effect of the cash paid and received of \$2.4 million was recognized as a gain in other income, net. Following the completion of the tender offer, \$0.2 million of 2021 Notes will remain outstanding and will be repaid or converted at their stated maturity date on March 19, 2021.

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 16, 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 on October 16, 2019 (3.19%); (2) \$300.0 million 10-year term due on October 16, 2022 (3.75%); and (3) \$27.0 million 12-year term due on 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 December 31, 2020. Based on an estimation using the changes in the U.S. Treasury rates, the Level 2 fair value of these senior notes as of December 31, 2020 and 2019 was approximately \$337.7 million and \$329.2 million, respectively. 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 14 "Derivatives and Hedging".

German Private Placement (Schuldschein)

In 2017, we completed a German private placement bond ("Schuldschein") which was issued in several tranches totaling \$331.1 million due in various periods through 2027. The Schuldschein consists of one U.S. dollar and several 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 14 "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 December 31, 2020 totaled \$26.9 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 over the lifetime of the notes. A summary of the tranches is as follows:

Currency	Notional Amount	Interest Rate	Maturity	Carrying Value (in thousands) as of	
				December 31, 2020	December 31, 2019
EUR	€11.5 million	Fixed 0.4%	March 2021	\$ 14,115	\$ 12,905
EUR	€23.0 million	Floating EURIBOR + 0.4%	March 2021	28,224	25,811
EUR	€21.5 million	Fixed 0.68%	October 2022	26,361	24,112
EUR	€64.5 million	Floating EURIBOR + 0.5%	October 2022	79,083	72,335
USD	\$45.0 million	Floating LIBOR + 1.2%	October 2022	44,948	44,919
EUR	€25.0 million	Floating EURIBOR + 0.5%	October 2022	30,642	28,026
EUR	€64.0 million	Fixed 1.09%	June 2024	78,429	71,747
EUR	€31.0 million	Floating EURIBOR + 0.7%	June 2024	37,989	34,753
EUR	€14.5 million	Fixed 1.61%	June 2027	17,760	16,249
				\$ 357,551	\$ 330,857

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 December 31, 2020 total €427.0 million (approximately \$524.0 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 0.525% to 1.525% 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. In 2020, \$0.9 million of commitment fees were paid. 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 December 31, 2020. The credit facilities are for general corporate purposes and no amounts were utilized at December 31, 2020.

17. Income Taxes

Income (loss) before income taxes for the years ended December 31, 2020, 2019 and 2018 consisted of:

(in thousands)	2020	2019	2018
Pretax (loss) income in The Netherlands	\$ (16,640)	\$ 17,455	\$ (1,675)
Pretax income (loss) from foreign operations	456,112	(95,231)	227,412
	\$ 439,472	\$ (77,776)	\$ 225,737

Income tax expense (benefit) for the years ended December 31, 2020, 2019 and 2018 are as follows:

(in thousands)	2020	2019	2018
Current—The Netherlands	\$ 270	\$ 5,670	\$ 5,794
—Foreign	86,720	13,371	52,835
	86,990	19,041	58,629
Deferred—The Netherlands	(6,921)	4,177	2,551
—Foreign	215	(59,539)	(25,823)
	(6,706)	(55,362)	(23,272)
Total income tax expense (benefit)	\$ 80,284	\$ (36,321)	\$ 35,357

The Netherlands statutory income tax rate was 25% for the years ended December 31, 2020, 2019 and 2018. Income from foreign subsidiaries is generally taxed at the statutory income tax rates applicable in the respective countries of domicile. The principal items comprising the differences between income taxes computed at The Netherlands statutory rate and our effective tax rate for the years ended December 31, 2020, 2019 and 2018 are as follows:

	2020	2019	2018
Income taxes at The Netherlands statutory rate	25.0%	25.0%	25.0%
Unrecognized tax benefits ⁽¹⁾	8.2	(14.1)	6.0
Valuation allowance ⁽²⁾	(8.1)	(26.9)	1.5
Taxation of foreign operations, net ⁽³⁾	(2.1)	33.1	(15.1)
Prior year taxes	(1.6)	(1.4)	0.2
Tax impact from intangible property transfer	(0.8)	27.2	—
Tax impact from (deductible) nondeductible items	(0.8)	(10.3)	1.3
Excess tax benefit related to share-based compensation	(0.6)	5.1	(2.1)
Government incentives and other deductions ⁽⁴⁾	(0.6)	9.7	(1.2)
Changes in tax laws and rates	(0.3)	(0.4)	0.8
Other items, net	0.0	(0.3)	(0.7)
Effective tax rate	18.3%	46.7%	15.7%

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- (1) During 2020, we analyzed accrals for tax contingencies, primarily related to the potential nondeductibility of the \$95.0 million expense reimbursement paid in connection with the unsuccessful acquisition attempt by Thermo Fisher and ongoing income tax audits.
- (2) Due to increased taxable income and deferred tax liability position in 2020, we released a net \$35.6 million valuation allowance primarily related to U.S. disallowed interest.
- (3) Our effective tax rate reflects the benefit of our global operations where certain income or loss is taxed at rates higher or lower than The Netherlands' statutory rate of 25% as well as the benefit of some income being partially exempt from income taxes due to various intercompany operating and financing activities. These foreign tax benefits are due to a combination of favorable tax laws, regulations and exemptions in these jurisdictions. Partial tax exemptions exist on foreign income primarily derived from operations in Germany, The Netherlands and Singapore. Further, we have intercompany financing arrangements in which the intercompany income is nontaxable or partially exempt or subject to lower statutory tax rates. During 2020, we had intercompany arrangements through Dubai, and in 2018 through mid-2019 had arrangements through Luxembourg and Ireland.
- (4) Government incentives include favorable tax regulations in the U.S. relating to research and development expense and other government incentives.

We conduct business globally and, as a result, file numerous consolidated and separate income tax returns in The Netherlands, Germany, and the U.S. federal jurisdiction, as well as in various other state and foreign jurisdictions. In the normal course of business, we are subject to examination by taxing authorities throughout the world. Tax years in The Netherlands are potentially open back to 2008 for income tax examinations by tax authorities. The German group is open to audit for the tax years starting in 2014 and in 2019, the German tax authority commenced an audit for the 2014-2016 tax years. The U.S. consolidated group is subject to federal and most state income tax examinations by tax authorities beginning with the year ending December 31, 2017 through the current period. Our other subsidiaries, with few exceptions, are no longer subject to income tax examinations by tax authorities for years before 2016.

Changes in the amount of unrecognized tax benefits for the years ended December 31, 2020, 2019, and 2018 are as follows:

(in thousands)	2020	2019	2018
Balance at beginning of year	\$ 58,002	\$ 55,780	\$ 44,033
Additions based on tax positions related to the current year	31,758	5,770	3,359
Additions for tax positions of prior years	3,560	14,532	11,984
Decrease for tax position of prior years	(57)	(9,073)	—
Decrease related to settlements	—	(7,605)	—
Decrease due to lapse of statute of limitations	(520)	(409)	(1,238)
Increase (decrease) from currency translation	7,349	(993)	(2,358)
Balance at end of year	<u>\$ 100,092</u>	<u>\$ 58,002</u>	<u>\$ 55,780</u>

At December 31, 2020 and 2019, our net unrecognized tax benefits totaled approximately \$100.1 million and \$58.0 million, respectively, which, if recognized, would favorably affect our effective tax rate in any future period. It is reasonably possible that approximately \$38.0 million of the unrecognized tax benefits may be released or utilized during the next 12 months due to lapse of statute of limitations or settlements with tax authorities; however, various events could cause our current expectations to change in the future. The above unrecognized tax benefits, if ever recognized in the financial statements, would be recorded in the statements of income (loss) as part of income tax expense (benefit).

Our policy is to recognize interest accrued related to an underpayment of income taxes in interest expense and penalties within income tax expense. For the years ended December 31, 2020, 2019 and 2018, we recognized a net expense for interest and penalties of \$1.9 million, \$1.6 million and \$1.1 million, respectively. At December 31, 2020 and 2019, we have accrued interest of \$4.4 million and \$2.5 million, respectively, which are not included in the table above.

We have recorded net deferred tax assets of \$15.7 million and \$33.1 million at December 31, 2020 and 2019, respectively. The components of the net deferred tax asset and liability at December 31, 2020 and 2019 are as follows:

(in thousands)	2020		2019	
	Deferred Tax Asset	Deferred Tax Liability	Deferred Tax Asset	Deferred Tax Liability
Net operating loss and tax credit carryforward	\$ 67,856	\$ —	\$ 50,274	\$ —
Accrued and other liabilities	22,926	—	17,977	—
Inventories	3,872	(2,269)	4,726	(1,439)
Unrealized gain (loss) on investments	—	(25,779)	—	(4,973)
Property, plant and equipment	6,099	(23,376)	5,297	(20,332)
Intangible assets	2,817	(55,999)	1,078	(26,294)
Share-based compensation	18,377	—	13,787	—
Disalloweed interest carryforwards	42,090	—	73,690	—
Convertible notes	6,512	(13,513)	7,104	—
Other	9,428	(6,046)	5,998	(6,174)
	<u>179,977</u>	<u>(126,982)</u>	<u>179,931</u>	<u>(59,212)</u>
Valuation allowance	(37,332)	—	(87,619)	—
	<u>\$ 142,645</u>	<u>\$ (126,982)</u>	<u>\$ 92,312</u>	<u>\$ (59,212)</u>
Net deferred tax assets		<u>\$ 15,663</u>		<u>\$ 33,100</u>

At December 31, 2020, we had \$686.3 million in total net operating loss (NOL) carryforwards which included \$318.6 million for Germany, \$176.4 million for the U.S., \$68.5 million for The Netherlands, \$49.8 million for Spain, and \$73.0 million for other foreign jurisdictions. The NOL carryforwards in Germany and Spain carryforward indefinitely and we expect them to be

fully utilized in future years. The entire NOL carryforward in the U.S. is subject to limitations under Section 382 of the U.S. Internal Revenue Code. The NOL carryforwards in the U.S. expire between 2024 and 2034 and in The Netherlands the NOL carryforwards expire between 2026 and 2028. NOL carryforwards of \$25.3 million in other foreign jurisdictions expire between 2021 and 2030 while the remainder can be carried forward indefinitely. At December 31, 2020, we had \$158.8 million of disallowed interest carryforwards which can be carried forward indefinitely. At December 31, 2020, tax credits total \$3.0 million which expire between 2030 and 2039.

For the years ended December 31, 2020, 2019 and 2018, the changes in the valuation allowance charged to income tax expense totaled \$36.8 million, \$19.0 million and \$0.8 million, respectively. For the year ended December 31, 2020, the changes in the valuation allowance charged to additional paid in capital totaled \$13.5 million. The valuation allowance principally relates to disallowed interest carryforwards and net operating loss carryforwards. The Company can only recognize a deferred tax asset to the extent it is "more likely than not" that these assets will be realized. Judgments around realizability depend on the availability and weight of both positive and negative evidence.

As of December 31, 2020, a deferred tax liability has not been recognized for residual income taxes in The Netherlands on the undistributed earnings of the majority of our foreign subsidiaries as these earnings are considered to be either indefinitely reinvested or can be repatriated tax free under the Dutch participation exemption. The indefinitely reinvested earnings retained of our subsidiaries that would be subject to tax if distributed amounted to \$538.3 million at December 31, 2020. Estimating the amount of the unrecognized deferred tax liability on indefinitely reinvested foreign earnings is not practicable. Should the earnings be remitted as dividends, we may be subject to taxes including withholding tax. We have \$28.1 million of undistributed earnings that we do not consider indefinitely reinvested and have recorded a deferred tax liability at December 31, 2020 and 2019, of \$1.6 million and \$1.5 million, respectively.

18. Equity

Shares

The authorized classes of our shares consist of Common Shares (410 million authorized), Preference Shares (450 million authorized) and Financing Preference Shares (40 million authorized). All classes of shares have a par value of €0.01. No Financing Preference Shares or Preference Shares have been issued. Like all shareholders' equity accounts, common shares are translated to U.S. dollars at the foreign exchange rates in effect when the shares are issued.

Issuance and Conversion of Warrants

In connection with the issuance of the Cash Convertible Notes as described in Note 16 "Debt", we issued Warrants as summarized in the table below. The number of warrants and exercise prices are subject to customary adjustments under certain circumstances. The proceeds, net of issuance costs, from the sale of the Warrants are included as additional paid in capital in the accompanying consolidated balance sheets.

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).

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

During 2020, 0.8 million common shares were issued in connection with the early conversion of 4.2 million warrants related to the 2021 Notes which resulted in a \$7.5 million decrease to additional paid in capital, a \$22.7 million decrease in retained earnings, and a decrease of \$30.3 million in treasury shares. The remaining warrants related to the 2021 Notes of 6.3 million were terminated in 2020, resulting in a cash payment of \$174.6 million, a \$30.3 million decrease to additional paid in capital and a \$144.3 million decrease in retained earnings.

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

Share Repurchase Programs

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

On January 31, 2018, we announced our fifth share repurchase program of up to \$200 million of our common shares. During 2018, we repurchased 2.9 million QIAGEN shares for \$104.7 million (including transaction costs). During 2019, we repurchased 2.0 million QIAGEN shares for \$74.5 million (including transaction costs), bringing the total shares repurchased under this program to 4.9 million for \$179.1 million (including transaction costs). This program ended on June 30, 2019.

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

Accumulated Other Comprehensive Loss

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

(in thousands)	2020	2019
Net unrealized loss on hedging contracts, net of tax	\$ (23,268)	\$ (2,289)
Net unrealized loss on pension, net of tax	(599)	(561)
Foreign currency effects from intercompany long-term investment transactions, net of tax of \$10.7 million and \$9.7 million in 2020 and 2019, respectively	(25,717)	(22,587)
Foreign currency translation adjustments	(194,238)	(284,182)
Accumulated other comprehensive loss	<u>\$ (243,822)</u>	<u>\$ (309,619)</u>

19. Earnings per Common Share

We present basic and diluted earnings per share. Basic earnings per share is calculated by dividing the net income (loss) 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 schedule summarizes the information used to compute earnings per common share for the years ended December 31, 2020, 2019 and 2018:

(in thousands, except per share data)	2020	2019	2018
Net income (loss)	<u>\$ 359,188</u>	<u>\$ (41,455)</u>	<u>\$ 190,380</u>
Weighted average number of common shares used to compute basic net income per common share	<u>228,427</u>	<u>226,777</u>	<u>226,640</u>
Dilutive effect of stock options and restrictive stock units	<u>3,350</u>	—	4,613
Dilutive effect of outstanding warrants	<u>2,437</u>	—	2,203
Weighted average number of common shares used to compute diluted net income per common share	<u>234,214</u>	<u>226,777</u>	<u>233,456</u>
Outstanding options and awards having no dilutive effect, not included in above calculation	<u>11</u>	<u>107</u>	<u>272</u>
Outstanding warrants having no dilutive effect, not included in above calculation	<u>26,438</u>	<u>32,938</u>	<u>35,939</u>
Basic earnings (loss) per common share	<u>\$ 1.57</u>	<u>\$ (0.18)</u>	<u>\$ 0.84</u>
Diluted earnings (loss) per common share	<u>\$ 1.53</u>	<u>\$ (0.18)</u>	<u>\$ 0.82</u>

For purposes of considering the 2027 Notes in determining diluted earnings (loss) 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 December 17, 2020 through December 31, 2020, they were excluded from the diluted earnings (loss) per common share calculation in 2020.

Due to the net loss for the year ended December 31, 2019, stock options and restricted stock units representing approximately 3.9 million weighted-average shares of common stock and warrants representing 1.7 million shares of common stock were excluded from the computation of diluted net loss because the impact would have been antidilutive.

20. Commitments and Contingencies

Licensing and Purchase Commitments

We have licensing agreements with companies, universities and individuals, some of which require certain up-front payments. Royalty payments are required on net product sales ranging from 0.45 percent to 25 percent of covered products or based on quantities sold. Several of these agreements have minimum royalty requirements. The accompanying consolidated balance sheets include accrued royalties relating to these agreements in the amount of \$7.4 million and \$5.5 million at December 31, 2020 and 2019, respectively. Royalty expense relating to these agreements amounted to \$12.2 million, \$13.5 million, and \$14.0 million for the years ended December 31, 2020, 2019 and 2018, respectively. Royalty expense is primarily recorded in cost of sales, with a small portion recorded as research and development expense depending on the use of the technology under license. Some of these agreements also have minimum raw material purchase requirements and requirements to perform specific types of research.

At December 31, 2020, we had commitments to purchase goods or services, and for future license and royalty payments. They are as follows:

Years ending December 31, (in thousands)	Purchase Commitments	License & Royalty Commitments
2021	\$ 199,843	\$ 10,003
2022	42,628	7,217
2023	5,364	4,483
2024	3,000	2,623
2025	—	2,349
Thereafter	—	3,364
	\$ 250,835	\$ 30,039

As of December 31, 2020, \$28.4 million of the total purchase commitments are with companies in which we hold an interest and are considered related parties.

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:

Years ending December 31, (in thousands)	
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 December 31, 2020 to be \$23.6 million which is included in accrued and other current liabilities in the accompanying consolidated balance sheet.

Employment Agreements

Certain of our employment contracts contain provisions which guarantee the payments of certain amounts in the event of a change in control, as defined in the agreements, or if the executive is terminated for reasons other than cause, as defined in the agreements. At December 31, 2020, the commitment under these agreements totaled \$21.2 million.

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. The changes in the carrying amount of warranty obligations for the years ended December 31, 2020 and 2019 are as follows:

(in thousands)	2020	2019
Balance at beginning of year	\$ 3,141	\$ 2,848
Provision charged to cost of sales	5,645	3,229
Usage	(3,978)	(2,921)
Adjustments to previously provided warranties, net	(125)	(1)
Currency translation	130	(14)
Balance at end of year	<u><u>\$ 4,813</u></u>	<u><u>\$ 3,141</u></u>

Litigation

From time to time, we may be party to legal proceedings incidental to our business. As of December 31, 2020, certain claims, suits or legal proceedings arising out of the normal course of business have been filed or were pending against QIAGEN or our subsidiaries. These matters have arisen in the ordinary course and conduct of business, as well as through acquisition. Although it is not possible to predict the outcome of such litigation, we assess the degree of probability and evaluate the reasonably possible losses that we could incur as a result of these matters. We accrue for any estimated loss when it is probable that a liability has been incurred and the amount of probable loss can be estimated.

Litigation accruals recorded in accrued and other current liabilities totaled \$5.2 million as of December 31, 2020 and \$0.8 million as of December 31, 2019. The estimated amount of a range of possible losses as of December 31, 2020, is between \$4.7 million and \$16.3 million. During the year ended December 31, 2020, \$0.3 million was paid. 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.

21. Segment Information

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. Considering the acquisitions made during 2020 and our continued restructuring and streamlining of the growing organization, our chief operating decision maker (CODM) continues to make decisions with regards to business operations and resource allocation based on evaluations of QIAGEN as a whole. Accordingly, we operate and make decisions as one business segment. Product category and geographic information follows below.

Product Category Information

Net sales for the product categories are attributed based on those revenues related to sample and assay products and similarly related revenues including bioinformatics solutions, and revenues derived from instrumentation sales. Refer to Note 4 "Revenue" for disaggregation of revenue based on product categories and customer class.

Geographical Information

Net sales are attributed to countries based on the location of the customer. QIAGEN operates manufacturing facilities in Germany, China, and the United States that supply products to customers as well as QIAGEN subsidiaries in other countries. The intersegment portions of such net sales are excluded to derive consolidated net sales. No single customer represents more than ten percent of consolidated net sales. Our country of domicile is The Netherlands, which reported net sales of \$17.8 million, \$15.8 million and \$15.9 million for the years ended 2020, 2019 and 2018, respectively, and these amounts are included in the line item Europe, Middle East and Africa as shown in the table below.

Net sales (in thousands)	2020	2019	2018
Americas:			
United States	\$ 728,577	\$ 663,869	\$ 632,660
Other Americas	96,880	58,121	60,359
Total Americas	825,457	721,990	693,019
Europe, Middle East and Africa	682,289	487,476	490,301
Asia Pacific, Japan and Rest of World	362,600	316,958	318,528
Total	\$ 1,870,346	\$ 1,526,424	\$ 1,501,848

Long-lived assets include property, plant and equipment. The Netherlands, which is included in the balances for Europe, reported long-lived assets of \$1.5 million and \$1.3 million as of December 31, 2020 and 2019, respectively.

Long-lived assets (in thousands)	2020	2019
Americas:		
United States	\$ 154,843	\$ 147,027
Other Americas	2,436	3,507
Total Americas	157,279	150,534
Europe, Middle East and Africa:		
Germany	304,571	229,225
Other Europe, Middle East and Africa	71,444	49,004
Total Europe, Middle East and Africa	376,015	278,229
Asia Pacific and Japan	26,078	26,480
Total	\$ 559,372	\$ 455,243

22. Share-Based Compensation

We adopted the QIAGEN N.V. Amended and Restated 2005 Stock Plan (the 2005 Plan) in 2005 and the QIAGEN N.V. 2014 Stock Plan (the 2014 Plan) in 2014. The 2005 Plan expired by its terms in April 2015 and no further awards will be granted under the 2005 Plan. The plans allow for the granting of stock rights and incentive stock options, as well as non-qualified options, stock grants and stock-based awards, generally with terms of up to 5 or 10 years, subject to earlier termination in certain situations. The vesting and exercisability of certain stock rights will be accelerated in the event of a Change of Control, as defined in the plans. All option grants have been at the market value on the grant date or at a premium above the closing market price on the grant date. We issue Treasury Shares to satisfy option exercises and award releases and had approximately 14.4 million Common Shares reserved and available for issuance under the 2005 and 2014 Plans at December 31, 2020.

Stock Options

We have not granted stock options since 2013. A summary of the status of employee stock options as of December 31, 2020 and changes during the year then ended is presented below:

All Employee Options	Number of Shares (in thousands)	Weighted Average Exercise Price	Weighted Average Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2020	792	\$ 20.06		
Exercised	(365)	\$ 20.97		
Outstanding at December 31, 2020	427	\$ 19.28	1.25	\$ 14,338
Vested at December 31, 2020	427	\$ 19.28	1.25	\$ 14,338
Vested and expected to vest at December 31, 2020	427	\$ 19.28	1.25	\$ 14,338

The total intrinsic value of options exercised during the years ended December 31, 2020, 2019 and 2018 was \$6.5 million, \$2.0 million and \$5.0 million, respectively. The actual tax benefit for the tax deductions from option exercises totaled \$1.3 million, \$0.5 million, and \$0.8 million during the years ended December 31, 2020, 2019 and 2018, respectively. At December 31, 2020, there was no unrecognized share-based compensation expense related to employee stock option awards.

At December 31, 2020, 2019 and 2018, 0.4 million, 0.8 million and 0.9 million options were exercisable at a weighted average price of \$19.28, \$20.06 and \$20.04 per share, respectively. The options outstanding at December 31, 2020 expire in various years through 2023.

Stock Units

Stock units represent rights to receive Common Shares at a future date and include restricted stock units which are subject to time-vesting only and performance stock units which include performance conditions in addition to time-vesting. The final number of performance stock units earned is based on the performance achievement which for some grants can reach up to 200% of the granted shares. There is no exercise price and the fair market value at the time of the grant is recognized over the requisite vesting period, generally up to 5 or 10 years. The fair market value is determined based on the number of stock units granted and the market value of our shares on the grant date. Pre-vesting forfeitures were estimated to be approximately 6.2%. At December 31, 2020, there was \$73.1 million remaining in unrecognized compensation cost including estimated forfeitures related to these awards, which is expected to be recognized over a weighted average period of 2.25 years. The weighted average grant date fair value of stock units granted during the years ended December 31, 2020, 2019 and 2018 was \$36.92, \$37.28 and \$35.37, respectively. The total fair value of stock units that vested during the years ended December 31, 2020, 2019 and 2018 was \$29.3 million, \$123.9 million and \$54.3 million, respectively.

A summary of stock units as of December 31, 2020 and changes during the year are presented below:

Stock Units	Stock Units (in thousands)	Weighted Average Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2020	5,183		
Granted	1,035		
Vested	(720)		
Forfeited	(365)		
Outstanding at December 31, 2020	5,133	2.25	\$ 261,458
Vested and expected to vest at December 31, 2020	3,881	2.02	\$ 205,097

Beginning in 2019, we began net share settlement for the tax withholding upon the vesting of awards. 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.

Compensation Expense

Share-based compensation expense before taxes for the years ended December 31, 2020, 2019 and 2018 totaled approximately \$40.9 million, \$65.9 million and \$40.1 million, respectively, as shown in the table below.

(in thousands)	2020	2019	2018
Cost of sales	\$ 2,897	\$ 2,493	\$ 2,879
Research and development	7,014	5,810	6,457
Sales and marketing	15,889	7,947	9,372
General and administrative	15,136	23,705	21,405
Restructuring, acquisition, integration and other, net	—	25,938	—
Share-based compensation expense	40,936	65,893	40,113
Less: income tax benefit ⁽¹⁾	9,552	12,153	8,277
Net share-based compensation expense	<u>\$ 31,384</u>	<u>\$ 53,740</u>	<u>\$ 31,836</u>

⁽¹⁾ Does not include the excess tax benefit realized for the tax deductions of the share-based payment arrangements which totaled \$2.5 million, \$4.0 million and \$4.7 million, respectively, for the years ended December 31, 2020, 2019 and 2018.

Share-based compensation expense includes amounts related to the restructuring programs discussed in Note 6 "Restructuring and Impairments", including accelerated expense in 2019. No share-based compensation costs were capitalized for the years ended December 31, 2020, 2019 or 2018 as the amounts were not material.

23. Employee Benefits

We maintain various benefit plans, including defined contribution and defined benefit plans. Our U.S. defined contribution plan is qualified under Section 401(k) of the Internal Revenue Code, and covers substantially all U.S. employees. Participants may

contribute a portion of their compensation not exceeding a limit set annually by the Internal Revenue Service. This plan includes a provision for us to match a portion of employee contributions. Total expense under the 401(k) plans, including the plans acquired via business acquisitions, was \$3.6 million, \$4.0 million and \$4.0 million for the years ended December 31, 2020, 2019 and 2018, respectively. We also have a defined contribution plan which covers certain executives. We make matching contributions up to an established maximum. Matching contributions made to the plan, and expensed, totaled approximately \$0.2 million in each of the years ended December 31, 2020, 2019 and 2018.

We have five defined benefit, non-contributory retirement or termination plans that cover certain employees in Germany, France, Japan, Italy and the United Arab Emirates. These defined benefit plans provide benefits to covered individuals satisfying certain age and/or service requirements. For certain plans, we calculate the vested benefits to which employees are entitled if they separate immediately. The benefits accrued on a pro-rata basis during the employees' employment period are based on the individuals' salaries, adjusted for inflation. The liability under the defined benefit plans was \$9.3 million at December 31, 2020 and \$8.2 million at December 31, 2019, and is included as a component of other long-term liabilities on the accompanying consolidated balance sheets.

24. Related Party Transactions

From time to time, we have transactions with other companies in which we hold an interest, all of which are individually and in the aggregate immaterial, as summarized in the table below.

Net sales to related parties for the years ended December 31, 2020, 2019, and 2018 are as follows:

(in thousands)	2020	2019	2018
Net sales	\$ 6,025	\$ 20,002	\$ 23,358

Net sales with related parties primarily reflects our ventures in China including our partnership to externalize the HPV test franchise for cervical cancer screening in China as well as our joint venture with Sichuan Maccura Biotechnology Co., Ltd which was terminated in conjunction with the 2019 restructuring activities discussed further in Note 6 "Restructuring and Impairments" which also details related party restructuring charges.

As of December 31, 2020 and 2019 balances with related parties are as follows:

(in thousands)	2020	2019
Accounts receivable	\$ 3,961	\$ 7,589
Prepaid expenses and other current assets	\$ 25,429	\$ 13,697
Other long-term assets	\$ 9,594	\$ 16,830
Accounts payable	\$ 4,050	\$ 1,775
Accrued and other current liabilities	\$ 1,380	\$ 15,404

Prepaid expenses and other current assets include supplier advances from companies with which we have an investment or partnership interest. As of December 31, 2019, this also included short-term loan receivables that were collected during 2020.

During 2018, we purchased a convertible note for \$15.0 million from a privately held company due in December 2021. During 2020, we purchased an additional convertible note from the same company for \$10.0 million due in August 2023. Both notes bear interest at 8%. In the event the company goes public, the notes will convert into common shares in the company ranking pari passu with existing common shares. As of December 31, 2020, \$17.1 million is included in prepaid expenses and other current assets and \$9.0 million is included in other long-term assets in the accompanying consolidated balance sheets related to the principal, accrued interest and allowance for credit loss upon adoption of ASC 326 on January 1, 2020. As of December 31, 2019, \$16.3 million is included in other long-term assets related to the principal and accrued interest due from this company related to the convertible note.

In connection with the 2019 Restructuring further discussed in Note 6 "Restructuring and Impairments", we entered into an agreement with a non-publicly traded company considered a related party to reduce future purchase commitments. As of December 31, 2019 due to this agreement, \$12.8 million was included in accrued and other current liabilities in the accompanying consolidated balance sheet. Payment occurred during the year ended December 31, 2020.

SCHEDULE II

QIAGEN N.V. AND SUBSIDIARIES
SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS
FOR THE YEARS ENDED DECEMBER 31, 2020, 2019 AND 2018

(in thousands)	Balance at Beginning of Period	Charged to Costs and Expense		Deductions	Foreign Exchange and Other ⁽¹⁾	Balance at End of Period
Year Ended December 31, 2018:						
Allowance for doubtful accounts	\$ 8,008	\$ 4,448	\$ (2,827)	\$ (359)	\$ 9,270	
Year Ended December 31, 2019:						
Allowance for doubtful accounts	\$ 9,270	\$ 8,701	\$ (5,777)	\$ (79)	\$ 12,115	
Year Ended December 31, 2020:						
Allowance for credit losses	\$ 12,115	\$ 17,764	\$ (13,784)	\$ 20,089	\$ 36,184	(2)

On January 1, 2020, we adopted ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* on a modified retrospective basis. Allowance for credit losses includes allowances for accounts receivable, loans receivable and other receivables for the year ended December 31, 2020.

(1) Includes the ASC 326 adoption impact of \$19.6 million in the year ended December 31, 2020.

(2) Of this amount, \$1.2 million in 2020 is classified as long-term.

EXECUTION VERSION**PURCHASE AGENT AGREEMENT**

10 December 2020

Deutsche Bank Aktiengesellschaft

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Germany

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25 Shoe Lane
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BNP PARIBAS

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Germany

16, boulevard des Italiens
75009 Paris
France

UniCredit Bank AG

Arabellastraße 12
81925 Munich
Germany

(each a "**Purchase Agent**", and together the "**Purchase Agents**")

Ladies and Gentlemen

QIAGEN N.V., with its corporate seat at Venlo, The Netherlands, (the "**Purchaser**"), intends to invite holders of its outstanding U.S.\$300,000,000 0.875% Senior Unsecured Convertible Notes due 2021 (ISIN: XS1046477581) (the "**Notes**") that are eligible to participate in the Invitation (as defined below) pursuant to the Invitation Term Sheet and subject to the restrictions and limitations set out therein (the "**Invited Holders**") to offer to sell their Notes to the Purchaser (the "**Invitation**").

The Purchaser has caused to be prepared and furnished to the Purchase Agents prior to the date hereof an invitation term sheet, dated 10 December 2020 (the "**Invitation Term Sheet**"), substantially in the form of Exhibit A, for use in connection with the Invitation. The Purchaser additionally (i) has issued a press release on the date hereof announcing the Invitation (the "**Launch Release**") and (ii) intends to issue a press release on 10 December 2020 announcing the expiry, and the preliminary results, of the Invitation (the "**Pricing Release**"). The Invitation Term Sheet, the Launch Release and the Pricing Release, and any other press releases or announcements (and any amendment or supplement thereto) to be made by or on behalf of the Purchaser in relation to the Invitation, as well any other written material expressly approved by the Purchaser for use or distribution in connection with the Invitation (including any clearing system notice and any announcement published on the website of the relevant stock exchange prepared or approved in writing by the Purchaser for communication to the Invited Holders, the Settlement Agent, the relevant clearing systems and their participants, and any brokers, dealers, commercial banks, trust companies and nominees) are referred to herein collectively as the "**Invitation Materials**".

1 Appointment

- 1.1** Each Purchase Agent is hereby appointed to act as an agent for the Purchaser in connection with the Invitation, and is authorised to act on the Purchaser's behalf in accordance with this agreement (the "**Agreement**"). In that capacity, each Purchase Agent agrees (i) in accordance with its customary practice, to use commercially reasonable efforts to identify Invited Holders, to present the Invitation to them on behalf of the Purchaser (including by making electronic copies of the Invitation Term Sheet available to Invited Holders) and to invite them on behalf of the Purchaser to submit offers to sell Notes (each an "**Offer**" and together the "**Offers**") to the Purchaser on the terms and subject to the conditions contained in the Invitation Term Sheet; (ii) to assist the Purchaser in determining the applicable purchase consideration payable to Invited Holders submitting Offers; (iii) to provide assistance as and when reasonably requested by the Purchaser in relation to any decision to extend, re-open, amend, waive any condition of or terminate the Invitation; and (iv) to provide such other assistance and undertake such other duties in connection with the Invitation and the Offers as are customary for comparable transactions and that have been agreed between the Purchaser and the Purchase Agents (but subject in all cases to compliance with applicable laws).
- 1.2** The Invitation Term Sheet has been approved by the Purchaser for use by the Purchase Agents in connection with the Invitation and the Offers (but subject in all cases to compliance with applicable laws). Each Purchase Agent is authorised to use copies of the Invitation Term Sheet in accordance with the terms and conditions of this Agreement without assuming any responsibility for independent investigation or verification on their part.
- 1.3** In acting under this Agreement and in connection with the Invitation and the Offers, each Purchase Agent shall act solely as agent of the Purchaser and will not assume any obligations towards, or relationship of agency or trust for or with, any holder of the Notes or any other person.
- 1.4** Each Purchase Agent may, in its sole discretion, continue to own or dispose of, in any manner it may elect, any Notes it may at the date of this Agreement hold or thereafter acquire for its own account or the account of others (but subject in all cases to compliance with applicable laws) and, in particular, no Purchase Agent has an obligation to the Purchaser pursuant to this Agreement, or otherwise, to submit an Offer in respect of any Notes beneficially owned by it.

2 Representation and warranties of the Purchaser

The Purchaser represents and warrants to, and agrees with each Purchase Agent, that as of the date hereof and at all times from the date hereof until the Settlement Date (as defined below):

- 2.1** it has made public all information required to be made public by applicable law and regulation;
- 2.2** the information in the Invitation Materials is true and correct in all material respects and not misleading in any material respect; save for any information already in the public domain, there are no other facts with respect to the Purchaser the omission of which would, in the context of the Invitation, make any information contained in the Invitation Materials misleading in any material respect; and all expressions of opinion, intention or expectation contained in any Invitation Material are truly and honestly held and have been made on reasonable grounds after due and careful consideration and enquiry;

- 2.3** it has or will have arranged that sufficient funds are available to enable it to make full payment for the Notes validly purchased pursuant to the Invitation to Merrill Lynch International in its capacity as settlement agent (in such capacity, the "**Settlement Agent**"), for settlement with Invited Holders whose Offers have been accepted (or to such other account or accounts for such settlement as the Purchase Agents may specify);
- 2.4** it has been duly incorporated and is validly existing under the laws of its jurisdiction of incorporation; it and each of its subsidiaries has power and authority (corporate or other) to own, lease and operate its properties and conduct its business, and is, where appropriate, in good standing under the laws of each other jurisdiction in which it owns or leases properties or conducts any business so as to require such qualification, other than where the failure to have such power or be so qualified or, where appropriate, in good standing would not have a material adverse effect on the making of the Invitation, the purchase of Notes (or the making of payment for such purchased Notes) pursuant to the Invitation or the performance of or compliance with this Agreement or the Invitation Materials or the consummation of any of the transactions contemplated hereby or thereby (a "**Material Adverse Effect**");
- 2.5** it has the requisite power and authority (corporate and otherwise) and it has taken all necessary action (corporate or otherwise, including, without limitation, the obtaining of any consent or licence or the making of any filing or registration) or thing required to be taken, fulfilled or done to authorise the making of the Invitation, the purchase of Notes (and the making of payment for such purchased Notes) pursuant to the Invitation and the performance of or compliance with this Agreement or the Invitation Materials and the consummation of any of the transactions contemplated hereby or thereby and has taken all necessary corporate action to authorise any amendments to, or modification of, the Invitation and the Invitation Materials; this Agreement has been duly authorised, executed and delivered by it and constitutes its valid and legally binding agreement, enforceable in accordance with its terms;
- 2.6** the making of the Invitation, the purchase of Notes (and the making of payment for such purchased Notes) pursuant to the Invitation and the performance of or compliance with this Agreement or the Invitation Materials and the consummation of any of the transactions contemplated hereby or thereby will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which it or any of its subsidiaries is a party or by which it or any of its subsidiaries is bound or to which any of its or any of its subsidiaries' property or assets is subject, (ii) result in any violation of the provisions of its or any of its subsidiaries' articles of association or other constituent documents or (iii) result in any violation of any applicable law, regulation, statute or any order, rule or regulation of any court, central bank, stock exchange or governmental agency or body ("**Governmental Agency**") having jurisdiction over it or any of its subsidiaries or any of their properties, except in relation to subsections (i) and (iii) as would not have a Material Adverse Effect;|
- 2.7** it (i) is not in violation of any applicable U.S. tender offer rules under Regulation 14E of the United States Exchange Act of 1934, as amended and (ii) has not utilized, directly or indirectly, the mails of, or any means or instrumentality of interstate or foreign commerce of, or any facility of a national securities exchange of, the United States in connection with the Invitation, except for regulatory filings arising from its status as a reporting company under the U.S. Securities

Exchange Act of 1934, as amended or any communications with the New York Stock Exchange arising from its status as a listed company thereon;

- 2.8 no event has occurred or circumstance has arisen which would constitute an Event of Default (as defined in the indenture constituting the Notes) under the Notes or which, with the giving of notice or the lapse of time or other condition would constitute an Event of Default thereunder;
- 2.9 there are no legal or governmental proceedings or, to its knowledge, investigations pending to which it or any of its subsidiaries is a party or of which any of its or and of its subsidiaries' property is the subject which, if determined adversely to it or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect; and, to the best of its knowledge, no such proceedings are threatened or contemplated by any Governmental Agency or threatened by others;
- 2.10 neither it nor any of its subsidiaries is (i) in violation of its articles of association or other constituent documents or (ii) in default in the performance or observance of any obligation, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it or any of its properties may be bound except with regard to (ii) where such default or non-observance would not, individually or in the aggregate, have a Material Adverse Effect;
- 2.11 neither it nor any of its affiliates has paid or agreed to pay to any person any compensation for the solicitation of Offers from Invited Holders pursuant to the Invitation (except pursuant to the Invitation);
- 2.12 neither it nor any of its affiliates has taken, directly or indirectly, any action designed to cause or to result in, or that has constituted or that might reasonably be expected to constitute, the stabilisation or manipulation of the price of any security of the Purchaser to facilitate the Invitation or to encourage Invited Holders to tender the Notes pursuant to the Invitation;
- 2.13 the Invitation and the purchase of Notes will not constitute a violation by the Purchaser or any of its subsidiaries of Articles 14 and 15 of the Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (market abuse regulation) ("**MAR**") or any other applicable law prohibiting insider dealing in securities or market abuse. Except for the Invitation, the Purchaser is not aware of any insider information as defined in Article 7 MAR with respect to the Purchaser or the Notes that is required to be published in accordance with Article 17 MAR and the Purchaser makes no use of its rights under Article 17 (4) MAR to temporarily exempt itself from the obligation to publicly disclose inside information relating to itself (except with regard to the transactions contemplated by this Agreement);
- 2.14 except, in respect of limbs (b) and (c), as disclosed in an email from Philipp von Hugo dated 3 December 2020 (sent at approximately 15.11 CET), none of the Purchaser, nor any of its Subsidiaries, nor any director, officer or, to the knowledge of the Purchaser, agent, employee, or Affiliate (other than any Subsidiary) of the Purchaser is an individual or entity ("**Person**"):
 - (a) with whom dealings are restricted or prohibited by, or are sanctionable under, any economic sanctions or trade restrictions administered or enforced by the U.S. government (including, without limitation, those administered or enforced by the U.S. Department of Treasury's Office of Foreign Assets Control, the U.S. Department of Commerce, or the U.S. Department of State), the United Nations Security Council, the European Union, Her

Majesty's Treasury, The Netherlands, or any other authority with jurisdiction over the Purchaser or any of its Subsidiaries (collectively, "**Sanctions**", and each such Person, a "**Sanctioned Person**"); or

- (b) located, organized, operating or resident in a country or territory that is the subject of Sanctions (currently the Crimea region, Cuba, Iran, North Korea, Sudan, and Syria) (each, a "**Sanctioned Country**"), save as disclosed in "Item 8. Financial Information—Disclosure pursuant to Section 219 of the Iran Threat Reduction & Syria Human Rights Act (ITRA)" of the 2019 20-F; or
- (c) owned or controlled by, or acting on behalf of, a Person identified in (a) or (b); and to the knowledge of the Purchaser, the Purchaser, its Subsidiaries and its directors, officers, agents, employees and Affiliates (other than Subsidiaries) are currently in compliance with, and at all times within the past five years have been in compliance with, and have not engaged nor plan to engage in any conduct sanctionable under, any applicable Sanctions laws, and there are not now, nor have there been within the past five years, any formal or informal proceedings, allegations, investigations, or inquiries pending, expected or, to the knowledge of the Purchaser, threatened against the Purchaser, its Subsidiaries, or the directors and officers of the Purchaser and its Subsidiaries, or, to the knowledge of the Purchaser, its Affiliates (other than Subsidiaries), or, to the knowledge of the Purchaser, any of the employees of the Purchaser, its Subsidiaries or other Affiliates concerning violations or potential violations of, or conduct sanctionable under, any Sanctions and the Purchaser, its Subsidiaries and, to the knowledge of the Purchaser, its Affiliates (other than Subsidiaries) have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance with Sanctions; any provision of this section 2.14 shall not apply if and to the extent it is illegal, invalid or unenforceable as a result of any applicable Blocking Regulation or German law (including section 7 of the Foreign Trade and Payments Ordinance, Außenwirtschaftsverordnung, as amended) and, in such case, the legality, validity and enforceability of this section 2.14 shall not otherwise be affected;

for purposes of this Agreement, "**Blocking Regulation**" means any provision of Council Regulation (EC) No 2271/1996 of 22 November 1996, as amended, (or any law or regulation implementing such Regulation in any member state of the European Union or the United Kingdom);

- 2.15** neither the Purchaser nor any of its Subsidiaries, nor any director of the Purchaser or any of its Subsidiaries, nor, to the knowledge of the Purchaser, any agent, Affiliate (other than any Subsidiary), or other person working for or on behalf of the Purchaser or any of its Subsidiaries has violated (i) any applicable provision of the U.S. Foreign Corrupt Practices Act of 1977 and the applicable rules and regulations promulgated thereunder; (ii) any applicable provisions of the U.K. Bribery Act 2010 and the applicable rules and regulations promulgated thereunder; or (iii) any other anti-corruption or anti-bribery laws of any other applicable jurisdictions (together, "**Anti-Corruption Laws**"); and the Purchaser, its Subsidiaries and, to the knowledge of the Purchaser, its Affiliates (other than Subsidiaries) have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance with applicable Anti-Corruption Laws; neither the Purchaser nor any of its Subsidiaries, nor any director or officer of the Purchaser, nor, to the knowledge of the Purchaser,

any director or officer of any of the Purchaser's Subsidiaries, or any agent, employee or Affiliate (other than any Subsidiary), or other person working for or on behalf of the Purchaser or any of its Subsidiaries is or has been the subject of any investigation, action, inquiry or enforcement proceedings regarding any breach or alleged breach of the Anti-Corruption Laws within the past five years, and (X) to the knowledge of the Purchaser, no such investigation, action, inquiry or proceedings have been threatened or are pending and (Y) there are no circumstances likely to give rise to any such investigation, action, inquiry or proceedings;

- 2.16 neither the Purchaser nor any of its Subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or unlawful payment to any foreign or domestic government official or employee from corporate funds; (iii) caused the Purchaser or any of its Subsidiaries to be in violation of any applicable national or local law regulating payments to government officials or employees; or (iv) made any unlawful payments; and
- 2.17 the operations of the Purchaser and its Subsidiaries and, so far as the Purchaser is aware, each of its and their Affiliates (other than Subsidiaries) are and have been conducted at all times in compliance with the money laundering statutes of all jurisdictions to which the Purchaser and its Subsidiaries, and each of its and their Affiliates (other than Subsidiaries), are subject and any related rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental agency including regulations governing predicate offences for money laundering (collectively, the "**Anti-Money Laundering Laws**"), and no action, suit, or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Purchaser or its managing board or any of its Subsidiaries with respect to the Anti-Money Laundering Laws is pending, or to the knowledge of the Purchaser, threatened; and the Purchaser, its Subsidiaries and, to the knowledge of the Purchaser, its Affiliates (other than Subsidiaries) have instituted and maintained, and will continue to maintain and enforce, policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance with applicable Anti-Money Laundering Laws.

For the purposes of this section 2:

"Affiliate" means, in relation to an entity, another entity directly or indirectly controlled by that entity, another entity directly or indirectly controlling that entity, or another entity under common control with that entity; and

"Subsidiary" means a consolidated subsidiary of the Purchaser.

3 Conditions to the obligations of the Purchase Agents

Each Purchase Agent's obligation to act as a Purchase Agent with respect to the Invitation shall at all times be subject to the conditions that:

- 3.1 all statements by the Purchaser contained herein (including but not limited to the representations, warranties and undertakings) are now, and at all times during the period of the Invitation shall be true and correct, it being understood that each of the Purchase Agent's agreeing to act, or continuing to act, as Purchase Agent at a time when it knows or should know that any such statement is or may be untrue or incorrect in a material respect shall be without prejudice to its right subsequently to cease so to act by reason of such untruth or incorrectness;

- 3.2 the Invitation Materials are not amended or supplemented without the consent of the Purchase Agents;
- 3.3 the Purchaser at all times during the period of the Invitation shall have performed all of its obligations hereunder and thereunder theretofore required to have been performed;
- 3.4 no stop order or restraining order shall have been issued and no litigation shall have been commenced or threatened with respect to the Invitation or with respect to any of the transactions in connection with, or contemplated by, the Invitation, the Invitation Materials or this Agreement before any agency, court or other governmental body of any jurisdiction which such Purchase Agent, in good faith after consultation with us, believe renders it inadvisable for such Purchase Agent to continue to act hereunder; and
- 3.5 the Purchaser shall have furnished to the Purchase Agents on the date hereof and on the Settlement Date opinions of Linklaters LLP as Dutch and U.S. counsel to the Purchaser, to the effect as set out in Annex I and II; and
- 3.6 the Purchaser shall have furnished to the Purchase Agents such information, certificates or other documents, in addition to those specifically mentioned herein, as the Purchase Agents shall have reasonably requested.

4 Purchased Notes settlement

On or before the Settlement Date (as defined below), the Purchaser will pay, or procure that there is paid, to the account of the Settlement Agent (or to such other account or accounts for such settlement as the Purchase Agents may specify) in immediately available funds, the aggregate amount payable for Notes validly purchased pursuant to the Invitation for settlement with such Invited Holders free and clear of, and without deduction for, any set-off, claim or applicable taxes (with appropriate gross-up for any taxes deducted or withheld). The Settlement Agent will not be bound to make any payments to Invited Holders unless and until the aggregate amount payable and the fees and expenses of the Purchase Agents shall have been paid to, and identified as received by, the Purchase Agents. As used in this Agreement, "**Settlement Date**" means 17 December 2020, subject to the right of the Purchaser to extend, re-open, amend, and/or terminate the Invitation.

5 Indemnification and contribution

- 5.1 In connection with the engagement of the Purchase Agents as described in this Agreement, including modifications or future additions to such engagement and related activities prior to the date of the Agreement (the "**engagement**"), the Purchaser agrees that it will indemnify and hold harmless each Purchase Agent and its affiliates and its and their respective directors, officers, agents and employees and each other person controlling such Purchase Agent or any of its affiliates (each, an "**indemnified party**"), to the full extent lawful, from and against any losses, expenses, claims or proceedings including shareholder actions (collectively, "**losses**") related to or arising out of:

- 5.1.1 the contents of the Invitation Materials;

- 5.1.2 any withdrawal, termination or cancellation by the Purchaser of, or failure by the Purchaser to, make or consummate the Invitation or the transactions contemplated thereby;
- 5.1.3 any action or failure to act by any Purchase Agent or any indemnified party in accordance with and at the request, or with the consent, of the Purchaser;
- 5.1.4 a breach or alleged breach of any of the obligations of the Purchaser, or of any of its representations, warranties or undertakings, set out in this Agreement by reference to the facts on the date hereof or by reason of a failure to be able to repeat the representations and warranties by reference to the facts on the Settlement Date or the arrangements in respect of the Invitation contemplated by any of the Invitation Materials or this Agreement; and
- 5.1.5 the issue, publication or distribution of the Invitation Materials,

or otherwise related to or arising out of the engagement or any transaction or conduct in connection therewith, including, without limitation, related services and activities prior to the date of this Agreement, and reimburse such indemnified parties for any and all expenses (including, without limitation, reasonable fees and disbursements of counsel and other out-of-pocket expenses) as they are incurred in connection with investigating, responding to or defending any of the foregoing, except that this section 5 shall not apply with respect to any losses (save as contemplated by clauses 5.1.1 to 5.1.4 above) to the extent such losses are finally judicially determined to have resulted solely from the gross negligence or wilful misconduct of such indemnified party ("**uncovered losses**"). The Purchaser further agrees that no indemnified party shall have any liability (whether direct or indirect, in contract or tort or otherwise) to the Purchaser or any of its affiliates, creditors or security holders for or in connection with the engagement or any actual or proposed transactions or other conduct in connection therewith except in the case of each Purchase Agent for losses incurred by the Purchaser to the extent such losses are finally judicially determined to have resulted solely from the gross negligence or wilful misconduct of such Purchase Agent or its or its affiliates, directors, officers, agents, employees and controlling persons.

- 5.2 In the event that the foregoing indemnity is unavailable to any indemnified party for any reason (other than with respect to uncovered losses), the Purchaser agrees to contribute to any losses related to or arising out of the engagement or any transaction or conduct in connection therewith as follows. For losses referred to in subsection (i) of the preceding paragraph 5.1, the Purchase Agents, on the one hand, and the Purchaser, on the other hand, shall contribute in such proportion as is appropriate to reflect the relative benefits received (or anticipated to be received) by each Purchase Agent, on the one hand, and by the Purchaser and its security holders, on the other hand, from the actual or proposed transaction arising in connection with the engagement. For any other losses (other than uncovered losses), and for losses referred to in subsection (i) of the preceding paragraph if the allocation provided by the immediately preceding sentence is unavailable for any reason, the Purchase Agents, on the one hand, and the Purchaser, on the other hand, shall contribute in such proportion as is appropriate to reflect not only the relative benefits as set forth above, but also the relative fault of the Purchase Agent, on the one hand, and the Purchaser, on the other hand, in connection with the statements, omissions or other conduct that resulted in such losses, as well as any other relevant equitable considerations. Benefits received (or anticipated to be received) by the Purchaser and its security holders shall be deemed

to be equal to the aggregate cash consideration and value of securities or any other property payable, issuable, exchangeable, amendable or transferable in such transaction or proposed transaction, and benefits received by each Purchase Agent shall be deemed to be equal to the compensation paid by the Purchaser to such Purchase Agent in connection with the engagement (exclusive of amounts paid for reimbursement of expenses under this Agreement). Relative fault shall be determined by reference to, among other things, whether any alleged untrue statement or omission or any other alleged conduct relates to information provided by the Purchaser or other conduct by the Purchaser (or its employees or other agents), on the one hand, or by each Purchase Agent, on the other hand. The Purchase Agents and the Purchaser agree that it would not be just and equitable if contribution were determined by *pro rata* allocation or by any other method of allocation that does not take account of the equitable considerations referred to above. Notwithstanding anything to the contrary above (other than with respect to uncovered losses), in no event shall any Purchase Agent be responsible under this paragraph for any amounts in excess of the amount of the compensation actually paid by the Purchaser to such Purchase Agent in connection with the engagement (exclusive of amounts paid for reimbursement of expenses under this Agreement, and amounts paid under this section 5).

- 5.3 Upon receipt by an indemnified person of notice of any suit, action, claim or proceeding brought against such indemnified person in respect of which indemnification may be sought against the Purchaser hereunder, such indemnified person shall promptly notify the Purchaser in writing, provided that the failure to so notify the Purchaser shall not relieve the Purchaser from any liability that it may have had to the indemnified person. If any such proceeding shall be brought or asserted against an indemnified person and it shall have notified the Purchaser thereof, the Purchaser shall retain counsel reasonably satisfactory to the indemnified person to represent the indemnified person and any others entitled to indemnification ("Other Person Entitled to Indemnification") pursuant to this section 5 that the Purchaser may designate in such proceeding and shall pay the fees and expenses of such counsel related to such proceeding as incurred. In any such proceeding, any indemnified person shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such indemnified person unless (i) the Purchaser and the indemnified person shall have mutually agreed to the contrary; (ii) the Purchaser has failed within a reasonable time to retain counsel reasonably satisfactory to the indemnified person; (iii) the indemnified person shall have reasonably concluded that there may be legal defences available to it that are different from or in addition to those available to the Purchaser and/or any Other Person Entitled to Indemnification; or (iv) the named parties in any such proceeding (including any impleaded parties) include both the Purchaser and the indemnified person and representation of both parties by the same counsel would be inappropriate due to actual or potential different interests between them. It is understood and agreed that the Purchaser shall not, in connection with any proceeding or related proceeding in the same jurisdiction, be liable for the fees and expenses of more than one separate firm (in addition to any local counsel) for each indemnified person, and that all such fees and expenses shall be reimbursed as they are incurred. Any such separate firm for any indemnified person shall be designated in writing by the indemnified person and any such separate firm for the Purchaser shall be designated in writing by the Purchaser.
- 5.4 The Purchaser will not settle, effect the compromise of, or consent to the entry of any judgment, with respect to any pending or threatened action, claim or proceeding in respect of which indemnity or contribution may be sought hereunder, whether or not any Purchase Agent is an

actual or potential party, without the Purchase Agents' prior written consent unless such settlement (i) includes an unconditional release of the Purchase Agents from all liability in any way related to or arising out of such proceeding and (ii) does not impose any actual or potential liability upon the Purchase Agents and does not contain any factual or legal admission by or with respect to the Purchase Agents or any adverse statement with respect to the character, professionalism, due care, loyalty, expertise or reputation of the Purchase Agents or any action or inaction by the Purchase Agents. For purposes of this section 5, the Purchase Agents shall include the named parties thereto, the respective current and former officers, directors, employees and agents thereof and their respective affiliates, and each other person, if any, controlling them or any of their respective affiliates, and the respective successors and assigns of all of the foregoing persons.

- 5.5** The foregoing provisions are in addition to any rights any indemnified party may have at common law or otherwise and shall be binding on and inure to the benefit of any successors, assigns, and personal representatives of the Purchaser and each indemnified party. The provisions of this section 5 shall remain in full force and effect notwithstanding (i) any investigation made by or on behalf of any Purchase Agent or (ii) the completion or termination of the engagement.

6 Expenses

The Purchaser will promptly reimburse each Purchase Agent, without regard to such consummation, for such Purchase Agent's reasonable out-of-pocket expenses in preparing for and performing its function as Purchase Agent, including the fees, costs and out-of-pocket expenses of such Purchase Agent's counsel for its representation of the respective Purchase Agent in connection therewith and, in relation to the fees of such counsel, to the extent of estimates of such counsel fees have been previously approved by the Purchaser. All payments due under this section 6 are to be made free and clear of, and without deduction for, any set-off, claim or applicable taxes (with appropriate gross-up for any taxes deducted or withheld). The Purchaser will pay such additional amount as will result in the Purchase Agents receiving and retaining (after any deduction or withholding) an amount equal to the payment that would have been due if no such deduction or withholding had been required or made. For this purpose, "taxes" means all forms of taxation, duties (including stamp duty), levies, imposts, charges and withholdings (including any related or incidental penalty, fine, interest or surcharge), whenever created or imposed, and whether required by the law or regulations of the Netherlands, the United States or elsewhere.

7 Arm's length transactions

- 7.1** The Purchaser understands that each Purchase Agent and its affiliates (together, a "**Purchase Agent Group**") are engaged in a wide range of financial services and businesses (including investment management, financing, securities trading, corporate and investment banking and research). Members of a Purchase Agent Group and businesses within a Purchase Agent Group generally act independently of each other, both for their own respective accounts and for the accounts of clients. Accordingly, there may be situations where parts of a Purchase Agent Group and/or their clients either now have or may in the future have interests, or take actions, which may conflict with our interests. For example, a Purchase Agent Group may, in the ordinary course of business, engage in trading in financial products or undertake other investment businesses for

their own account or on behalf of other clients, including, but not limited to, trading in or holding long, short or derivative positions in securities, loans or other financial products of the Purchaser or other entities connected with the Invitation.

- 7.2 In recognition of the foregoing, the Purchaser agrees that each Purchase Agent Group is not required to restrict its activities as a result of this engagement, and that each Purchase Agent Group may undertake any business activity without further consultation with or notification to the Purchaser. Neither this Agreement, the receipt by a Purchase Agent Group of confidential information nor any other matter shall give rise to any fiduciary, equitable or contractual duties (including without limitation any duty of trust or confidence) that would prevent or restrict any Purchase Agent Group from acting on behalf of other customers or for their own account. Furthermore, the Purchaser agrees that neither a Purchase Agent Group nor any member or business of a Purchase Agent Group is under a duty to disclose to the Purchaser or use on behalf of the Purchaser any information whatsoever about or derived from those activities or to account for any revenue or profits obtained in connection with such activities.
- 7.3 Furthermore, the Purchaser agrees that (i) it is solely responsible for making its own judgments in connection with the Invitation and no Purchase Agent has assumed an advisory or fiduciary responsibility in favour of the Purchaser with respect to the Invitation (irrespective of whether any member of or business within a Purchase Agent Group has advised or is currently advising the Purchaser on related or other matters), and (ii) the Purchaser has consulted its own legal and financial advisors to the extent it deemed appropriate. The Purchaser agrees that it will not claim that the Purchase Agents, or any of them, has rendered advisory services of any nature or respect, or owes a fiduciary or similar duty to the Purchaser, in connection with the Invitation.

8 Miscellaneous

- 8.1 In the event that any provision hereof shall be determined to be invalid or unenforceable in any respect, such determination shall not affect such provision in any other respect or any other provision hereof, which shall remain in full force and effect.
- 8.2 This Agreement may be executed in one or more counterparts, each of which shall be deemed an original.
- 8.3 This Agreement shall terminate upon the earlier to occur of (i) the final consummation, expiration, termination or withdrawal of the Invitation and (ii) the date six months from the date hereof, and may be terminated by either the Purchaser or the Purchase Agents at any time, with or without cause, effective upon receipt by the other party of written notice to that effect.
- 8.4 The representations, warranties and indemnifications contained or referenced in this Agreement shall continue in effect after completion of the Invitation and shall be effective even if we withdraw, abandon or terminate the Invitation.
- 8.5 The Purchaser irrevocably (i) agrees that any legal suit, action or proceeding against us brought by a Purchase Agent or by any person who controls a Purchase Agent arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in any court of the federal courts of the United States located in the City and County of New York or the courts of the State of New York located in the City and County of New York (each, a "**New York Court**"), (ii) waives, to the fullest extent it may effectively do so, any objection which it may now or hereafter have to the laying of venue of any such proceeding and (iii) submits to the exclusive jurisdiction of

such courts in any such suit, action or proceeding. The Purchaser has appointed QIAGEN North American Holdings Inc. of 19300 Germantown Rd, Germantown, MD 20874 (Attn. Legal Department), as its authorised agent (the "**Authorised Agent**") upon whom process may be served in any such action arising out of or based on this Agreement or the transactions contemplated hereby which may be instituted in any New York Court by a Purchase Agent or by any person who controls a Purchase Agent, expressly consents to the jurisdiction of any such court in respect of any such action, and waives any other requirements of or objections to personal jurisdiction with respect thereto. Such appointments shall be irrevocable. The Purchaser further represents and warrants that the Authorised Agent has agreed to act as such agent for service of process and agree to take any and all action, including the filing of any and all documents and instruments, that may be necessary to continue such appointment in full force and effect as aforesaid. Service of process upon the Authorised Agent and written notice of such service to us shall be deemed, in every respect, effective service of process upon us.

- 8.6** The Purchaser hereby agrees that, should any legal suit, action or proceeding be brought against any Purchase Agents or any of its indemnified parties arising out of or based upon this Agreement or the transactions contemplated hereby and instituted in any court in any other jurisdiction not mentioned in Section 8.5 hereof, whether or not in the federal or state courts located in the United States, such Purchase Agent or indemnified party may join the Purchaser as a respondent in such suit, action or proceeding. The Purchaser hereby submits to the nonexclusive jurisdiction of such courts and agrees that any such suit, action or proceeding may be brought therein. The Purchaser hereby further agrees that a final judgment in any such suit, action or proceeding is conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.
- 8.7** Each reference in this Agreement to dollars or U.S. dollars is of the essence. To the fullest extent permitted by law, our obligation in respect of any amount due under this Agreement will, notwithstanding any payment in any other currency (whether pursuant to a judgment or otherwise), be discharged only to the extent of the amount in the relevant currency that the party entitled to receive such payment may, in accordance with its normal procedures, purchase with the sum paid in such other currency (after any premium and costs of exchange) on the business day immediately following the day on which such party receives such payment. If the amount in the relevant currency that may be so purchased for any reason falls short of the amount originally due, the Purchaser will pay such additional amounts, in the relevant currency, as may be necessary to compensate for the shortfall. Any of the Purchaser's obligations not discharged by such payment will, to the fullest extent permitted by applicable law, be due as a separate and independent obligation and, until discharged as provided herein, will continue in full force and effect.
- 8.8** This agreement shall be governed by the laws of the State of New York. Any right to trial by jury with respect to any claim or proceeding related to or arising out of this engagement or any transaction or conduct in connection herewith, is waived.

Very truly yours,

QIAGEN N.V.

By: /s/ Thomas Neidert
Name: Thomas Neidert
Title: VP Global Treasury

Accepted and agreed to as
of the date of this Agreement:

DEUTSCHE BANK AKTIENGESELLSCHAFT

By: /s/ Xavier Lagache
Name: Xavier Lagache
Title: Managing Director

/s/ Mark Schmitz
Name: Mark Schmitz
Title: Managing Director

GOLDMAN SACHS INTERNATIONAL

By: /s/ Celine Assouling
Name: Celine Assouling
Title: Managing Director

MERRILL LYNCH INTERNATIONAL

By: /s/ Juan Rodriguez Andrade
Name: Juan Rodriguez Andrade
Title: Managing Director

BNP PARIBAS

By: /s/ Thierry Petit
Name: Thierry Petit
Title: Head of EMAE EQL

/s/ Florence Sztuder
Name: Florence Sztuder
Title: COO of ECM EMEA

HSBC TRINKAUS & BURKHARDT AG

By: /s/ Bernd Wiedemuth
Name: Bernd Wiedemuth
Title: Director

/s/ Christopher Johannson
Name: Christopher Johannson
Title: Associate Director

UNICREDIT BANK AG

By: /s/ Matthias Janssen
Name: Matthias Janssen
Title: Managing Director

/s/ Francesco Pilardi
Name: Francesco Pilardi
Title: Director

ANNEX I

[*Agreed form Linklaters Dutch law opinion*]

ANNEX II

[*Agreed form Linklaters U.S. law opinion*]

EXHIBIT A

[*Draft Invitation Term Sheet*]

EXECUTION VERSION

Dated 10 December 2020

QIAGEN N.V.

as Issuer

and

DEUTSCHE BANK AKTIENGESELLSCHAFT

and

GOLDMAN SACHS INTERNATIONAL

and

MERRILL LYNCH INTERNATIONAL

as Joint Global Coordinators and Joint Bookrunners

and

BNP PARIBAS

and

HSBC TRINKAUS & BURKHARDT AG

and

UNICREDIT BANK AG

as Joint Bookrunners

SUBSCRIPTION AGREEMENT

relating to the

QIAGEN N.V.

up to USD 500,000,000 Convertible Bonds due 2027

ISIN DE000A286LP0

convertible into ordinary registered shares of

QIAGEN N.V.

Linklaters

Ref: L-305747

Linklaters LLP

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THIS SUBSCRIPTION AGREEMENT (the "Agreement") is made on 10 December 2020 between:

- (1) **QIAGEN N.V.** (the "Issuer");
- (2) **DEUTSCHE BANK AKTIENGESELLSCHAFT, GOLDMAN SACHS INTERNATIONAL** and **MERRILL LYNCH INTERNATIONAL** (together, the "**Joint Global Coordinators**"); and
- (3) **BNP PARIBAS, HSBC TRINKAUS & BURKHARDT AG** and **UNICREDIT BANK AG** (together with the Joint Global Coordinators, the "**Joint Bookrunners**").

Recitals:

- (A) The Issuer intends to issue Convertible Bonds due 2027, ISIN DE000A286LP0, in an aggregate principal amount of up to USD 500,000,000 (the "**Bonds**", which expression where the context so admits shall include the Global Bond (as defined below) to be delivered in respect of the Bonds).
- (B) The Bonds will have the terms and conditions substantially in the form attached hereto as **Schedule 1** (the "**Terms and Conditions**").
- (C) The Bonds will, subject to and in accordance with the Terms and Conditions, be convertible by each holder of a Bond (the "**Bondholders**") into new or already existing fully paid ordinary registered shares (ISIN: NL0012169213) of the Issuer to be issued by the Issuer upon conversion of the Bonds from its authorised and unissued share capital or to be delivered by or on behalf of the Issuer in the form of existing shares held by the Issuer as treasury shares (*eigene Aktien*) of the same class as the new shares (the "**Settlement Shares**"), provided that such delivery of existing shares can be legally effected and does not impair the rights which the relevant Bondholder would otherwise have.
- (D) Pursuant to article 3.1 of the current articles of association of the Issuer (the "**Articles**"), the authorised share capital of the Issuer amounts to nine million Euro (EUR 9,000,000), which is divided into four hundred and ten million (410,000,000) shares with a nominal value of one Euro cent (EUR 0.01) each, forty million (40,000,000) financing preference shares with a nominal value of one Euro cent (EUR 0.01) each and four hundred and fifty million (450,000,000) preference shares with a nominal value of one Euro cent (EUR 0.01) each. At the date of this Agreement, the total issued and outstanding share capital of the Issuer amounts to 230,829,308.67 ordinary shares with a nominal value of EUR 0.01 each (the "**Existing Shares**") and as such, 179,170,691 ordinary shares remain available for issue under the Issuer's current authorised share capital.
- (E) The issuance of the Bonds have been resolved upon by the managing board of the Issuer in a written resolution dated 9 December 2020, and the grant of rights to acquire the Settlement Shares and the exclusion of pre-emptive rights relating thereto was approved by the supervisory board of the Issuer in a meeting held on 3 December 2020 (the "**Authorisation**").
- (F) Payments and other functions in respect of the Bonds will be made or performed on behalf of the Issuer by the agents appointed under a paying, conversion and calculation agency agreement expected to be dated on or before the Closing Date (the "**Agency Agreement**") between the Issuer and such agents named therein (the "**Agents**").
- (G) The Issuer and Clearstream Banking AG, Frankfurt ("Clearstream Frankfurt"), will, on or before the Closing Date, enter into a book-entry registration agreement pursuant to which the Issuer will appoint Clearstream Frankfurt as its book-entry registrar in respect of the

Bonds and will agree to maintain a register showing the aggregate number of the Bonds represented by the Global Bond under the name of Clearstream Frankfurt, and Clearstream Frankfurt will agree, as agent of the Issuer, to maintain records of the Bonds credited to the accounts of the accountholders of Clearstream Frankfurt for the benefit of the holders of the co-ownership interests in the Global Bond, and the Issuer and Clearstream Frankfurt will agree, for the benefit of the holders of co-ownership interests in the Global Bond, that the actual number of Bonds from time to time shall be evidenced by the records of Clearstream Frankfurt (the "**Book-Entry Registration Agreement**").

- (H) The Issuer is a public company with limited liability (*naamloze vennootschap*) incorporated under the laws of The Netherlands, having its corporate seat (*statutaire zetel*) in Venlo, The Netherlands, and having its registered office at Hulsterweg 82, 5912PL Venlo, The Netherlands, and registered with the trade register of the Dutch Chamber of Commerce under number 12036979.
- (I) The Joint Bookrunners will offer the Bonds to non-U.S. persons outside the United States of America (the "**United States**") within the meaning of and pursuant to Regulation S ("**Regulation S**") under the Securities Act for sale to institutional investors in an offshore international private offering, in reliance on an exemption from registration in the United States pursuant to Regulation S under the Securities Act (the "**Bonds Offer**").
- (J) The Issuer has prepared and delivered to each Joint Bookrunner copies of
 - (i) the launch term sheet used in the Bonds Offer, dated the day of this Agreement, describing the terms of the Bonds except for the pricing information (the "**Launch Term Sheet**"); and
 - (ii) a form of the pricing term sheet describing the terms of the Bonds including the pricing information, which will be finally dated the Pricing Date (the "**Pricing Term Sheet**"),each for use by such Joint Bookrunner in connection with the Bonds Offer.
- (K) The Issuer will apply for the Bonds to be quoted on the open market segment (*Freiverkehr*) of the Frankfurt Stock Exchange (the "**Open Market**").

IT IS AGREED as follows:

1 Definitions and Interpretation

1.1 In this Agreement (including the recitals):

"2021 Notes" means the USD 300,000,000 Convertible Notes of the Issuer due 2021, ISIN XS1046477581;

"Affiliate" means, in relation to an entity, another entity directly or indirectly controlled by that entity, another entity directly or indirectly controlling that entity, or another entity under common control with that entity;

"Aggregate Principal Amount" means the final aggregate principal amount of the Bonds to be issued fixed in the Pricing Agreement;

"Business Day" means a day (other than a Saturday or a Sunday) on which (i) banks are open for business in Frankfurt am Main and (ii) the Clearing System settles payments;

"Clearing System" means Clearstream Frankfurt;

"Closing Date" means 17 December 2020 or such later date as the Issuer and the Joint Bookrunners may agree in writing;

"Commission" means the U.S. Securities and Exchange Commission;

"Contracts" means this Agreement, the Pricing Agreement, the Agency Agreement and the Book-Entry Registration Agreement;

"control" means the holding of more than 50 per cent. of the voting shares or other ownership interests of the relevant corporation or business entity;

"Conversion Period" means the conversion period as defined in § 1 of the Terms and Conditions;

"Global Bond" means the permanent global bearer bond representing the Bonds substantially in the form as set forth in **Schedule 2** to this Agreement with the Terms and Conditions attached to it;

"Group" means the Issuer and its consolidated Subsidiaries taken as a whole;

"Invitation to Sell" means the invitation to be made by the Issuer (as purchaser) to eligible holders of the outstanding 2021 Notes to offer to sell any and all of such notes for cash;

"Issue Price" is a price in per cent. of the principal amount of the Bonds fixed in the Pricing Agreement;

"MAR" means Regulation (EU) No 596/2014 of the European Parliament and of the council of 16 April 2014 on market abuse (market abuse regulation as amended) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC, as amended from time to time;

"Material Adverse Change" means any change or any development or event involving a prospective change which is materially adverse to the business, shareholders' equity, assets, financial position and results of operations (*Vermögens-, Finanz- und Ertragslage*) or the prospects of the Issuer or the Group whether or not arising in the ordinary course of business;

"Material Adverse Effect" means any Material Adverse Change, or any material adverse effect on the ability of the Issuer to perform its respective obligations under this Agreement, the Contracts, or the Bonds, as the case may be, or which is otherwise material in the context of the issue of the Bonds;

"Offering Materials" means each of the following documents prepared by the Issuer and provided to the Joint Bookrunners for use by the Joint Bookrunners in connection with the Bonds Offer:

- (i) the following documents announcing the Bonds Offer: the Launch Term Sheet (as defined above) and the launch ad-hoc release dated the date of this Agreement;
- (ii) the form of Terms and Conditions;
- (iii) the Pricing Term Sheet (as defined above) and the pricing press release, dated the day after the Pricing Date; and
- (iv) any of the other documents or materials distributed or issued by the Issuer in connection with the Bond Offer (and any amendment or supplement to any of such documents);

"Previously Publicly Disclosed Information" means any information having been made public by or on behalf of the Issuer on or after 31 December 2019 under general corporate or other regulatory laws, rules or regulations or otherwise (including, but not limited to all filings required by the Frankfurt Stock Exchange, the New York Stock Exchange, the U.S. Securities and Exchange Commission, the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht – BaFin*), the Dutch Authority for the Financial Markets (*Stichting Autoriteit Financiële Markten - AFM*) and/or German law or Dutch law), including, without limitation, the written presentation published by the Issuer on its website on 8 December 2020 in connection with its 'Virtual Deep Dive', in each case which may reasonably be expected to be taken into consideration by investors when making an investment decision in respect of the Bond Offer;

"Share Repurchase" has the meaning given to it in Clause 7.1.5(ii);

"Securities Act" means the U.S. Securities Act of 1933 (as amended);

"Settlement Lead Manager" means Deutsche Bank Aktiengesellschaft; and

"Subsidiary" means a consolidated subsidiary of the Issuer.

- 1.2** References to capitalised terms not defined in this Agreement are to those terms as defined in the Terms and Conditions, as applicable, except where the context requires otherwise. Words importing the plural shall include the singular and *vice versa*.

2 Issue of the Bonds

- 2.1** Subject to the execution of the Pricing Agreement (as defined below), the Issuer agrees to issue the Bonds to the Joint Bookrunners and to deliver the Bonds to the Joint Bookrunners on the Closing Date.

- 2.2** The Bonds will be represented by a Global Bond. The Global Bond will not be exchangeable for definitive Bonds.

3 Bonds Offer, Subscription; Commissions, Costs and Expenses

- 3.1** The Joint Bookrunners will conduct the Bonds Offer, on a best efforts basis, during the bookbuilding period which is expected to take place on the date of this Agreement. For the avoidance of doubt, the Bonds Offer may be terminated following a termination of this Agreement in accordance with Clause 11.

- 3.1.1** The final terms and conditions of the Bonds, in particular the Aggregate Principal Amount, the Issue Price and the Conversion Premium will be determined in the bookbuilding process, and fixed in the pricing agreement to be entered into between the Issuer and the Joint Bookrunners immediately following the completion of the Bonds Offer on the Pricing Date, as the Issuer and the Joint Bookrunners may agree, substantially in the form as set forth in **Schedule 3** (the "**Pricing Agreement**"). None of the parties hereto shall be obliged to enter into the Pricing Agreement.
- 3.1.2** Without undue delay after such determination has been so made, the Issuer will announce the Reference Share Price and the initial Conversion Price (being the Conversion Premium fixed in the Pricing Agreement above the Reference Share Price).

3.2 Subject to the execution of the Pricing Agreement by all parties thereto, and subject to the terms and conditions of this Agreement and the Pricing Agreement, and subject to the satisfaction or waiver of the conditions precedent in accordance with Clause 4.2, each Joint Bookrunner will subscribe for its proportion of the Aggregate Principal Amount of the Bonds for which the Joint Bookrunners have successfully procured subscribers at the Issue Price on the Closing Date, namely:

	Proportion
Deutsche Bank Aktiengesellschaft.....	22.51 per cent.
Goldman Sachs International.....	22.50 per cent.
Merrill Lynch International.....	22.50 per cent.
BNP PARIBAS.....	10.83 per cent.
HSBC Trinkaus & Burkhardt AG.....	10.83 per cent.
UniCredit Bank AG.....	10.83 per cent.

3.3 The Joint Bookrunners will be severally liable (*Einzelschuldner*) and be neither joint debtors (*Schuldner zur gesamten Hand*) nor joint and several debtors (*Gesamtschuldner*) with respect to any of their obligations, nor joint creditors (*Gesamtgläubiger*) with respect to any of their rights, under this Agreement. Each of the Joint Bookrunners will acquire sole title to the Bonds which it subscribes pursuant to Clause 3.2 and Clause 3.4, if any, and there shall be no joint ownership in the Bonds by the Joint Bookrunners.

3.4 In connection with the Bonds Offer, each Joint Bookrunner and any of their respective affiliates (each acting as an investor for its own account) may take up Bonds and in that capacity may retain, purchase or sell Bonds for their own account and any other securities of the Issuer or related investments and may offer or sell such securities or other investments otherwise than in connection with the Bonds Offer. Accordingly, references in the Agreement to the Bonds being offered or placed should be read as including any offering of securities to each Joint Bookrunner and any of its respective affiliates acting in such capacity. The Joint Bookrunners do not intend to disclose the extent of any such investment or transactions otherwise than in accordance with any legal or regulatory obligation to do so.

3.5 Commissions; Costs and Expenses

3.5.1 Commissions:

- (i) In consideration of the Joint Bookrunners' efforts regarding the Bonds Offer and the subscription and sale of the Bonds, the Issuer agrees to pay to the Joint Bookrunners a combined management, underwriting and selling commission of 0.70 per cent. of the gross proceeds of the Bonds Offer calculated at the Issue Price (the "**Base Fee**"). The Base Fee will be split among the Joint Bookrunners equal to their respective quota set out in Clause 3.2.
- (ii) The Issuer may, in addition to the Base Fee, pay at its sole discretion to the Joint Bookrunners an additional fee of up to 0.25 per cent. of the gross proceeds of the Bonds Offer calculated at the Issue Price (the "**Discretionary Fee**"). The Issuer will determine the amount of the Discretionary Fee, which may be zero, on or prior to the Closing Date and pay the Discretionary Fee no later than 30 calendar days following the Pricing Date at its sole discretion based upon the performance of the Joint

Bookrunners. Any Discretionary Fee paid will be split among the Joint Bookrunners at the sole discretion of the Issuer.

- 3.5.2 Costs and Expenses: Irrespective of whether the Bonds Offer is consummated or not, the Issuer will be responsible for the costs and expenses of its legal counsel(s) and accountants, as well as all other expenses relating to the Bonds Offer including, but not limited to, public relations, advertising and listing fees, the fees for the use of bookbuilding software, fees of the Agent and the Clearing System and the fees and expenses of the Joint Bookrunners' legal counsel (which shall include such Joint Bookrunners' legal counsel's disbursements and any VAT), it being understood that such Joint Bookrunners' legal counsel's fees shall not exceed EUR 95,000 (including expenses of such Joint Bookrunners' legal counsel but excluding VAT).
 - 3.5.3 The Base Fee will be due and payable to the Settlement Lead Manager on behalf of the Joint Bookrunners on the Closing Date and shall be deducted by the Settlement Lead Manager from the gross proceeds of the Bonds Offer and transferred to each Joint Bookrunner in the respective Amount.
 - 3.5.4 All fees, costs and expenses payable to the Joint Bookrunners under this Agreement are to be made, free and clear of any set-off or claim and exclusive of Value Added Tax or any similar taxes ("VAT") and any withholding tax. All fees, costs and expenses charged by the Joint Bookrunners will be invoiced together with VAT, where applicable. The Issuer shall pay such additional amounts as shall be required so that the net amount received by the Joint Bookrunners after such deduction, withholding or imposition shall equal the amount otherwise due to the Joint Bookrunners. Expenses shall become due and payable within ten Business Days after the Issuer has received from the Settlement Lead Manager on behalf of the Joint Bookrunners an invoice specifying such expenses.
- 3.6 Execution of this Agreement by each Joint Bookrunner constitutes acceptance by it of the ICMA Agreement Among Joint Bookrunners Version 2 German law version, save that clause 3 thereof shall not apply and subject to any other amendment notified to the Joint Bookrunners by the Joint Global Coordinators in writing at any time prior to the date of this Agreement, and provided that references therein to "Lead Manager" shall be deemed to be to each Joint Global Coordinator.

4 Closing; Conditions Precedent

4.1 Closing

- 4.1.1 The Issuer will cause the Global Bond representing the Bonds to be delivered in or substantially in the form set out herein, duly executed and authenticated, to the Clearing System no later than 2.00 p.m. (Frankfurt am Main time) two Business Day before the Closing Date.
- 4.1.2 At 10.00 a.m. (Frankfurt am Main time) (or such other time as may be agreed between the Issuer and the Joint Bookrunners) on the Closing Date, the Issuer will cause the Bonds to be transferred to the Settlement Lead Manager on behalf of the Joint Bookrunners, by way of book-entry transfer to the relevant account of the Settlement Lead Manager maintained with the Clearing System (as separately notified by the Settlement Lead Manager to the Issuer prior to the Closing Date) or

as the Settlement Lead Manager may otherwise direct the Issuer no later than two Business Days prior to the Closing Date.

- 4.1.3 Against transfer of the Bonds in accordance with Clause 4.1.2, the Settlement Lead Manager on behalf of the Joint Bookrunners will pay or cause to be paid to the Issuer the aggregate purchase price payable for the Bonds, being the Issue Price. Such payment shall be made by the Settlement Lead Manager on behalf of the Joint Bookrunners, in US dollars in immediately available funds to such account as shall be notified by the Issuer to the Settlement Lead Manager on behalf of the Joint Bookrunners, evidence of such payment taking the form of a confirmation by the Settlement Lead Manager that it has made the relevant payment to the Issuer.

- 4.2 **Conditions Precedent:** The obligations of the Joint Bookrunners under this Agreement and the Pricing Agreement are conditional upon:

- 4.2.1 on each of the date hereof, the date of the Pricing Agreement and the Closing Date, all representations and warranties made by the Issuer in this Agreement being true and correct, and as if made, at the date of this Agreement, the date of the Pricing Agreement and the Closing Date;
- 4.2.2 the Issuer having performed all of its obligations under this Agreement on or before the Closing Date and not being in breach of any provision of this Agreement;
- 4.2.3 no Force Majeure Event (as defined in Clause 11.1.3) having occurred on or before the Closing Date;
- 4.2.4 no action having been taken and no statute, rule, regulation or order having been enacted, adopted or issued by any governmental or regulatory authority that would prevent the issuance and sale of the Bonds; and no preliminary injunction or order of any court having been applied for or served on the Issuer prohibiting or substantially inhibiting the Issuer from executing the transactions contemplated in this Agreement;
- 4.2.5 the Issuer having validly executed all Contracts on or before the Closing Date;
- 4.2.6 the Authorisation remaining in full force and effect without modification;
- 4.2.7 the Issuer having signed the Global Bond and delivered it to the Clearing System in accordance with the Agency Agreement on the Business Day immediately preceding the Closing Date;
- 4.2.8 there having been, as at the Pricing Date and the Closing Date, no Material Adverse Change, and no development reasonably likely to result in a Material Adverse Change, since the time of the execution of this Agreement;
- 4.2.9 the Settlement Lead Manager on behalf of the Joint Bookrunners having received the documents set out in paragraph 1 of **Schedule 4** no later than on the Pricing Date and prior to the signing of the Pricing Agreement; and
- 4.2.10 the Settlement Lead Manager on behalf of the Joint Bookrunners having received the documents set out in paragraph 2 of **Schedule 4** no later than at 10.00 a.m. (Frankfurt am Main time) on the Closing Date.

- 4.3 **Waiver:** The Joint Bookrunners acting jointly may, at their discretion and upon such terms as they see fit, waive compliance with the whole or any part of Clause 4.2 and Schedule 4.

5 Selling Restrictions

Each Joint Bookrunner, severally and not jointly, represents and warrants that it has complied, and agrees that it will comply, with the selling restrictions set out in **Schedule 5**.

6 Quotation of the Bonds, Listing of the Settlement Shares

- 6.1 Quotation of the Bonds:** The Issuer will, with the assistance of an admission agent to be appointed by the Issuer, at its own expense, cause to be made an application for the Bonds to be admitted to trading on the Open Market at the latest within six weeks after the Closing Date. In connection with such application, the Issuer shall provide the admission agent appointed by it with all information or acts necessary to obtain such inclusion as promptly as practicable and take such other steps as may be required for the purpose of obtaining and maintaining such admission. The Issuer will use its reasonable endeavours to obtain and maintain such quotation for as long as any Bond is outstanding.
- 6.2 Listing of the Settlement Shares:** The Issuer undertakes to procure that any Settlement Shares to be issued or delivered, as the case may be, upon conversion of the Bonds subject to and in accordance with the Terms and Conditions will, upon issue or delivery as provided in the Terms and Conditions, have been admitted to trading on the New York Stock Exchange and the Prime Standard of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*).

7 Representations and Warranties

- 7.1 Representations and Warranties in respect of the Issuer:** The Issuer hereby represents and warrants to each of the Joint Bookrunners by way of an independent guarantee irrespective of fault (*selbständige verschuldensunabhängige Garantiehaftung*) that, as of the date of this Agreement, as of the Pricing Date and as of the Closing Date:

7.1.1 Capacity, Validity, Consents

- (i) the Issuer is a limited liability company (*naamloze vennootschap*) duly established, incorporated and validly existing under the laws of The Netherlands and each Subsidiary of the Issuer has been duly incorporated and is validly existing and in good standing, where applicable, under the laws of its jurisdiction of incorporation and under the laws of each other jurisdiction in which it owns or leases properties or conducts any business so as to require such qualification, other than where the failure to have such power or be so qualified, or in good standing would not have a Material Adverse Effect, each with full power and authority to own its assets and to conduct its business as described in the Articles and the Offering Materials. The Existing Shares are admitted to trading on the New York Stock Exchange and on the Prime Standard of the Frankfurt Stock Exchange;
- (ii) the Issuer is not in insolvency or liquidation and no reasons for the opening of insolvency proceedings exist;
- (iii) the Issuer has full power and capacity to enter into this Agreement, to issue the Bonds free and clear of all liens, encumbrances, claims or other third party rights, to execute the Contracts, to undertake and perform all obligations expressed to be assumed by it in this Agreement, under the

Bonds and under the Contracts and any related agreements to the full extent and to issue the Settlement Shares to be issued upon conversion of the Bonds;

- (iv) (a) this Agreement has been duly authorised by all required corporate action by and on behalf of the Issuer, executed and delivered by the Issuer and constitutes, and on the Pricing Date and on the Closing Date will constitute, valid, legally binding and enforceable obligations of the Issuer in accordance with its terms, and (b) the other Contracts have been, or will prior to their execution by the Issuer be, duly authorised by all required corporate action by and on behalf of the Issuer and on the date of their respective execution, on the Pricing Date (if they have been executed by then) and on the Closing Date will constitute valid, legally binding and enforceable obligations of the Issuer in accordance with their terms, subject in each case to the laws of insolvency or bankruptcy, applicable overriding mandatory provisions of Dutch law and other laws affecting the rights of creditors generally;
- (v) the issuance of the Bonds have been duly authorised by the Issuer and, when duly executed, authenticated and delivered, will constitute valid, enforceable and legally binding obligations of the Issuer and upon delivery of such Bonds and payment therefor, good and valid title to such Bonds, free and clear of all liens, encumbrances, claims or other third party rights, will pass to the several Joint Bookrunners and there are no restrictions on subsequent transfers of the Bonds under the laws of The Netherlands, the United States or Germany or the Articles or other constituent documents of the Issuer except as described in the Offering Materials;
- (vi) (a) as of the date hereof, except for the actions contemplated by the Contracts which are due after the date hereof (including the actions and the provisions of documents set out in **Schedule 4**), all licences, consents, approvals, authorisations, orders and clearances from all regulatory authorities required by the Issuer, for or in connection with, the Bonds Offer, the creation of the Bonds, the execution and issue of, and compliance by the Issuer with the terms of the Bonds and the execution of, and compliance with, the terms of, this Agreement and the Contracts and the issue of the Settlement Shares to be issued upon conversion of the Bonds, have been obtained and are in full force and effect and (b) as of the Closing Date, all licences, consents, approvals, authorisations, orders, and clearances from all regulatory authorities required by the Issuer, for or in connection with, the creation of the Bonds, the Bonds Offer and the execution and issue of, and compliance by the Issuer with the terms of, the Bonds and the execution of, and compliance with, the terms of, this Agreement and the Contracts, and the issue and delivery of the Settlement Shares to be issued upon conversion of the Bonds, have been obtained and are in full force and effect, in each case except for lodging by the Issuer with Clearstream Frankfurt of one or more duly signed global share certificates (together with global dividend coupon(s), if applicable) representing the Settlement Shares and the listing of the Settlement Shares as provided in Clause 6.2;

- (vii) the execution and delivery of the Contracts, the Bonds Offer, the issue of the Bonds, the carrying out of the other transactions contemplated by the Contracts and compliance with their respective terms do not and will not (a) conflict with or result in a breach of any of the provisions of the Articles or other constituent documents of the Issuer or of any Subsidiary, (b) conflict with or result in a breach of any agreement or instrument to which the Issuer is a party or by which it or its properties is bound, or (c) infringe any existing applicable law, rule, regulation, judgment, order or decree of any government, governmental body or court, domestic or foreign, having jurisdiction over the Issuer or any of its properties, except, with respect to (b) and (c) above only, for any such conflicts, breaches or infringements that would not, individually or in the aggregate, result in a Material Adverse Effect;
- (viii) neither the Issuer nor any Subsidiary is (a) in violation of its articles of association or other constituent documents or (b) in default in the performance or observance of any obligation, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it or any of its properties may be bound except, in the case of (ii), where such default or non observance would not, individually or in the aggregate, have a Material Adverse Effect;

7.1.2 Capitalisation, Shares, Authorised Share Capital

- (i) all Existing Shares have been duly authorised (i.e. their issue has been approved by all necessary corporate action), validly issued with all pre-emptive rights complied with or validly limited or excluded and are fully paid-up and all of the issued shares of capital stock of each Subsidiary (except for directors' qualifying shares) are owned directly or indirectly by the Issuer free and clear of all liens, encumbrances, equities or claims;
- (ii) except as described in the Previously Publicly Disclosed Information:
 - (a) there are no securities or other rights in issue of the Issuer or any of its Subsidiaries which are convertible into or exchangeable for shares in the share capital of the Issuer;
 - (b) there are no claims against the Issuer to buy or any obligations of the Issuer or any of its Subsidiaries to issue, any shares in the share capital of the Issuer; and
 - (c) there are, or will be, as the case may be, no restrictions on the transfer or voting of any of the Settlement Shares in the share capital of the Issuer pursuant to the Articles or any agreement to which the Issuer is a party;
- (iii) the Settlement Shares to be issued or delivered, as the case may be, upon conversion of the Bonds subject to and in accordance with the Terms and Conditions will be validly issued or delivered, as the case may be, and fully paid up and entitled to dividends from the beginning of the fiscal year during which they are issued;

- (iv) the Issuer has available for issue and has the required authority to subscribe, free from pre-emption rights accruing to shareholders in respect of such issue, sufficient authorised share capital to enable the conversion rights attaching to the Bonds to be satisfied in full pursuant to and subject to and in accordance with the Terms and Conditions;
- (v) all pre-emptive rights accruing to existing shareholders of the Issuer in connection with the offer, issue and the sale of the Bonds have been, or will at the time of signing the Pricing Agreement have been, validly excluded;
- (vi) the Existing Shares are admitted to trading on the stock exchange(s) referred to in Clause 6.2. The Existing Shares are freely tradable on such stock exchange(s) and at the date of this Agreement and at the Closing Date, the Issuer is, or will be, in compliance with, and will continue to comply, with all applicable listing rules relating to the Existing Shares, and it has made and will continue to make all applicable regulatory filings in respect of the listing and admission to trading of the Existing Shares;
- (vii) the Settlement Shares to be issued or delivered, as the case may be, upon conversion of the Bonds subject to and in accordance with the Terms and Conditions will rank *pari passu* with, and will be of the same class as, the Existing Shares on the relevant Settlement Date (as defined in the Terms and Conditions) (except that the dividend entitlement may vary as described in the Terms and Conditions);
- (viii) the Settlement Shares will be free of any rights of any third person and freely transferable;
- (ix) the statements made in the Recitals (D), (E) and (H) are correct;

7.1.3 Financial Information, Proceedings, Insurance

- (i) the consolidated financial statements of the Issuer and its consolidated Subsidiaries as of and for the years ended 31 December 2019 and 31 December 2018 (the "**Audited Financial Statements**"), the unaudited condensed consolidated financial statements of the Issuer and its consolidated Subsidiaries as of and for the three months ended 31 March 2020, the unaudited condensed consolidated financial statements of the Issuer and its consolidated Subsidiaries as of and for the three and six months ended 30 June 2020 and the unaudited condensed consolidated financial statements of the Issuer and its consolidated Subsidiaries as of and for the three and nine months ended 30 September 2020 (together, the "**2020 Interim Financial Statements**") in the Previously Published Disclosure Information present fairly in all material respects the financial condition, results of operations and cash flows of the Issuer as of the dates and for the periods indicated, comply as to form with the applicable accounting requirements of the Securities Act and the related rules and regulations adopted by the Commission, and have been prepared in conformity with generally accepted accounting principles in the United States ("**U.S. GAAP**") applied on a consistent basis throughout the periods involved (except as otherwise noted therein) the 2020 Interim Financial Statements have been prepared on a basis consistent with that of the Audited Financial Statements;

- (ii) KPMG Wirtschaftsprüfungsgesellschaft, have audited and issued an unqualified audit opinion (*uneingeschränkte Bestätigungsvermerke*) with regard to Audited Financial Statements;
- (iii) Since 31 December 2019, the Issuer has made public all information required to be made public by applicable law and regulation. No Previously Publicly Disclosed Information made public by or on behalf of the Issuer since 31 December 2019 (save to the extent amended in or superseded by subsequent Previously Publicly Disclosed Information) contains an untrue statement of material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading and all forecasts, estimates, expressions of opinion, intention and expectation contained in the Previously Publicly Disclosed Information were when made and remain fairly and honestly held and were made after due and careful consideration based on reasonable grounds and there were no other facts known, or which on reasonable enquiry could have been known, to the Issuer, the omission of which would make any statement or expression therein misleading or which were or might have been material in the context in which the document or the announcement was issued;
- (iv) neither the Issuer nor any of its Subsidiaries has entered into any Off-Balance Sheet Arrangements that could be considered as material in respect of the Group. For purposes of this Clause 7.1.3(iv), "**Off-Balance Sheet Arrangements**" means any transaction, agreement or other contractual arrangement to which an entity unconsolidated with the Issuer is a party under which the Issuer or any of its Subsidiaries has (a) any obligation under a guarantee contract pursuant to which the Issuer or any of its Subsidiaries could be required to make payments to the guaranteed party including, without limitation, any standby letter of credit, market value guarantee, performance guarantee, indemnification agreement (other than indemnification obligations arising from standard business agreements), keep-well or other support agreement, (b) any retained or contingent interest in assets transferred to such unconsolidated entity that serves as credit, liquidity or market risk support to the entity in respect of such assets, (c) any variable interest held in such unconsolidated entity where such entity provides financing, liquidity, market risk or credit risk support to, or engages in leasing, hedging or research and development services with the Issuer or any of its Subsidiaries, and (d) any other similar liability or obligation (whether absolute, accrued, contingent or otherwise) that in any of the cases (a) through (d) would not be required to be reflected in the Issuer's consolidated financial statements under U.S. GAAP or the notes thereto;
- (v) save as disclosed in the Previously Publicly Disclosed Information, there has been no Material Adverse Change since 31 December 2019;
- (vi) save as disclosed in the Previously Publicly Disclosed Information, there are no pending legal or governmental proceedings, actions or suits against or affecting either the Issuer or any member of the Group, or, to the knowledge of the Issuer, investigations pending to which the Issuer or any

Subsidiary is a party or of which any property of the Issuer or any Subsidiaries is the subject, which, if determined adversely to it, would alone or in the aggregate have a Material Adverse Effect; and to the best of its knowledge no such proceedings, actions or suits are threatened or contemplated;

- (vii) all information provided by the Issuer and/or its representatives to the Joint Bookrunners and the Joint Bookrunners' legal counsel with respect to the Bonds Offer in oral or written form is in all material respects true and correct and not misleading;
- (viii) the Issuer and each Subsidiary have paid all material federal, state, local, Dutch and other non-U.S. taxes and filed all material tax returns required to be paid or filed through the date hereof, except for any taxes which are being contested in good faith by appropriate proceedings for which adequate reserves have been provided. There is no material tax deficiency that has been, or could reasonably be expected to be, asserted against the Issuer or any Subsidiary or any of their respective properties or assets;

7.1.4 Bonds, Offering Materials

- (i) the Bonds have been duly authorised (i.e. their issue has been approved by all necessary corporate action) and issued by the Issuer and, when duly issued, authenticated, executed and/or delivered, will constitute direct, unconditional, unsecured, valid and legally binding obligations of the Issuer;
- (ii) the Bonds will rank as set forth in § 3 of the Terms and Conditions;
- (iii) no stamp or other duty or similar tax is assessable or payable in, and no withholding or deduction for or on account of, any taxes, duties, assessments or governmental charges of whatever nature is required to be made by or within Germany, The Netherlands or other subdivision of or authority therein or thereof having power to tax, in each case in connection with the authorisation, execution or delivery of the Bonds or, other than as disclosed in the Launch Term Sheet, the performance of the obligations of the Issuer under the Contracts and the Bonds or any payment it may make or be required to make on the Bonds;
- (iv) the information in the Offering Materials is true and correct and not misleading. There are no other facts with respect to the Issuer or the Bonds the omission of which would, in the context of the issue of the Bonds, make any information contained in the Offering Materials misleading in any material respect and the Issuer has made all reasonable enquiries to ascertain all facts material for the purposes of the Offering Materials and to verify the accuracy of all such statements;
- (v) no event has occurred or circumstance arisen which, had the Bonds already been issued, might (whether or not with the giving of notice and/or the passage of time and/or the fulfilment of any other requirement) constitute an Acquisition of Control, give rise to an adjustment of the Conversion Price in accordance with § 10 to the Terms and Conditions or constitute an event of default giving rise to a termination right of the Bondholders pursuant to § 12 of the Terms and Conditions;

7.1.5 Compliance general

- (i) except for the transactions contemplated by this Agreement or the Contracts and the Invitation to Sell, the Issuer is not aware of any inside information as defined in Article 7 of the MAR with respect to the Issuer, the Group, the Bonds or the Existing Shares that is required to be published in accordance with Article 17 of the MAR; the Issuer does not make use of its rights under Article 17(4) of the MAR or any other applicable laws or regulations in relation to the Issuer, the Group the Bonds or the Existing Shares to temporarily exempt itself from its obligation to publicly disclose inside information relating to itself;
- (ii) except for Issuer's ongoing repurchase of up to USD 100,000,000 of its ordinary shares announced on 11 November 2020 (the "**Share Repurchase**") pursuant to its share repurchase programme separately announced on 6 May 2019, neither the Issuer nor any of its Subsidiaries has taken, directly or indirectly, any action which was designed to cause or caused the stabilisation or manipulation of the price of the Bonds or the shares of the Issuer or any securities or other documents that embody the right to receive shares or other securities of the Issuer;
- (iii) except, in respect of limbs (b) and (c), as disclosed in an email from Philipp von Hugo dated 3 December 2020 (sent at approximately 15.11 CET), none of the Issuer, nor any of its Subsidiaries, nor any director, officer or, to the knowledge of the Issuer, agent, employee, or Affiliate (other than any Subsidiary) of the Issuer is an individual or entity ("**Person**"):
 - (a) with whom dealings are restricted or prohibited by, or are sanctionable under, any economic sanctions or trade restrictions administered or enforced by the U.S. government (including, without limitation, those administered or enforced by the U.S. Department of Treasury's Office of Foreign Assets Control, the U.S. Department of Commerce, or the U.S. Department of State), the United Nations Security Council, the European Union, Her Majesty's Treasury, The Netherlands, or any other authority with jurisdiction over the Issuer or any of its Subsidiaries (collectively, "**Sanctions**", and each such Person, a "**Sanctioned Person**"); or
 - (b) located, organized, operating or resident in a country or territory that is the subject of Sanctions (currently the Crimea region, Cuba, Iran, North Korea, Sudan, and Syria) (each, a "**Sanctioned Country**"), save as disclosed in "Item 8. Financial Information—Disclosure pursuant to Section 219 of the Iran Threat Reduction & Syria Human Rights Act (ITRA)" of the 2019 20-F; or
 - (c) owned or controlled by, or acting on behalf of, a Person identified in (a) or (b); and to the knowledge of the Issuer, the Issuer, its Subsidiaries and its directors, officers, agents, employees and Affiliates (other than Subsidiaries) are currently in compliance with, and at all times within the past five years have been in compliance with, and have not engaged nor plan to engage in any conduct sanctionable under, any applicable Sanctions laws, and there are not

now, nor have there been within the past five years, any formal or informal proceedings, allegations, investigations, or inquiries pending, expected or, to the knowledge of the Issuer, threatened against the Issuer, its Subsidiaries, or the directors and officers of the Issuer and its Subsidiaries, or, to the knowledge of the Issuer, its Affiliates (other than Subsidiaries), or, to the knowledge of the Issuer, any of the employees of the Issuer, its Subsidiaries or other Affiliates concerning violations or potential violations of, or conduct sanctionable under, any Sanctions and the Issuer, its Subsidiaries and, to the knowledge of the Issuer, its Affiliates (other than Subsidiaries) have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance with Sanctions; any provision of this Clause (iii) shall not apply if and to the extent it is illegal, invalid or unenforceable as a result of any applicable Blocking Regulation or German law (including section 7 of the Foreign Trade and Payments Ordinance, *Außenwirtschaftsverordnung*, as amended) and, in such case, the legality, validity and enforceability of this Clause (iii) shall not otherwise be affected;

for purposes of this Agreement, "**Blocking Regulation**" means any provision of Council Regulation (EC) No 2271/1996 of 22 November 1996, as amended, (or any law or regulation implementing such Regulation in any member state of the European Union or the United Kingdom);

- (iv) neither the Issuer nor any of its Subsidiaries, nor any director of the Issuer or any of its Subsidiaries, nor, to the knowledge of the Issuer, any agent, Affiliate (other than any Subsidiary), or other person working for or on behalf of the Issuer or any of its Subsidiaries has violated (i) any applicable provision of the U.S. Foreign Corrupt Practices Act of 1977 and the applicable rules and regulations promulgated thereunder; (ii) any applicable provisions of the U.K. Bribery Act 2010 and the applicable rules and regulations promulgated thereunder; or (iii) any other anti-corruption or anti-bribery laws of any other applicable jurisdictions (together, "**Anti-Corruption Laws**"); and the Issuer, its Subsidiaries and, to the knowledge of the Issuer, its Affiliates (other than Subsidiaries) have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance with applicable Anti-Corruption Laws; neither the Issuer nor any of its Subsidiaries, nor any director or officer of the Issuer, nor, to the knowledge of the Issuer, any director or officer of any of the Issuer's Subsidiaries, or any agent, employee or Affiliate (other than any Subsidiary), or other person working for or on behalf of the Issuer or any of its Subsidiaries is or has been the subject of any investigation, action, inquiry or enforcement proceedings regarding any breach or alleged breach of the Anti-Corruption Laws within the past five years, and (X) to the knowledge of the Issuer, no such investigation, action, inquiry or proceedings have been threatened or are pending and (Y) there are no circumstances likely to give rise to any such investigation, action, inquiry or proceedings;

- (v) neither the Issuer nor any of its Subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or unlawful payment to any foreign or domestic government official or employee from corporate funds; (iii) cause the Issuer or any of its Subsidiaries to be in violation of any applicable national or local law regulating payments to government officials or employees; or (iv) made any unlawful payments;
- (vi) the operations of the Issuer and its Subsidiaries and, so far as the Issuer is aware, each of its and their Affiliates (other than Subsidiaries) are and have been conducted at all times in compliance with the money laundering statutes of all jurisdictions to which the Issuer and its Subsidiaries, and each of its and their Affiliates (other than Subsidiaries), are subject and any related rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental agency including regulations governing predicate offences for money laundering (collectively, the "**Anti-Money Laundering Laws**"), and no action, suit, or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Issuer or its managing board or any of its Subsidiaries with respect to the Anti-Money Laundering Laws is pending, or to the knowledge of the Issuer, threatened; and the Issuer, its Subsidiaries and, to the knowledge of the Issuer, its Affiliates (other than Subsidiaries) have instituted and maintained, and will continue to maintain and enforce, policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance with applicable Anti-Money Laundering Laws;
- (vii) unless expressly provided for in this Agreement, the Issuer has not instructed anyone in return for payment to arrange offers to purchase the Bonds;
- (viii) the Issuer has not distributed and will not distribute to any prospective investors any materials or documents in connection with the Bonds Offer without the prior consent of the Joint Bookrunners;
- (ix) there are no acquisitions or disposals of businesses or assets pending or currently being negotiated by the Issuer or any of its Subsidiaries scheduled to be closed within six months after the Closing Date or to be announced within three months after the date of this Agreement which have not been disclosed to the Joint Bookrunners and which would, in the opinion of the Issuer, have a Material Adverse Effect;
- (x) in conducting their business, the Issuer and its Subsidiaries are not in violation of any law, regulation or governmental decree relating to trade law, trade regulation, license requirements, competition/antitrust law (save for any information already in the public domain), the German or Dutch Criminal Code and other similar laws in other jurisdictions, in which the Issuer and its Subsidiaries are engaged in their business, except where such violation could not reasonably be expected to have a Material Adverse Effect; to the best of the Issuer's knowledge, there are no indications that the Issuer and its Subsidiaries have violated any applicable competition/

- antitrust laws (save for any information already in the public domain) that could reasonably be expected to have a Material Adverse Effect;
- (xi) the Issuer and each of its Subsidiaries have obtained all necessary authorisations, consents, approvals, licenses and permits of and from all supra-national, national, provincial and other governmental authorities which are material to the conduct of the business of the Group as currently conducted (collectively, "Permits"); save for any information already in the public domain the Issuer and each of its Subsidiaries have fulfilled and performed their obligations with respect to such Permits, except where a violation of such obligations or not obtaining such Permits would not have a Material Adverse Effect; and save for any information already in the public domain there are no pending or imminent proceedings aiming at a withdrawal or amendment of any such Permits, which, in the case of an adverse decision, decree or declaration, whether separately or taken as a whole, would have a Material Adverse Effect;
 - (xii) the Issuer and each Subsidiary maintains a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences, other than where the failure to do so would not have a Material Adverse Effect; Since the end of the Issuer's most recent audited fiscal year, there has been (i) no material weakness in the Issuer's internal control over financial reporting (whether or not remediated) and (ii) no change in the Issuer's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Issuer's internal control over financial reporting. The Issuer and each Subsidiary maintain an effective system of disclosure controls and procedures that are designed to ensure that information required to be disclosed by the Issuer in the reports that it files or submits is recorded, processed, summarized and reported, within the applicable time periods and is accumulated and communicated to the Issuer's management, including its principal executive officer or officers and principal financial officer or officers, as appropriate, to allow timely decisions regarding disclosure, other than, in each case, where the failure to do so would not have a Material Adverse Effect;

7.1.6 Miscellaneous

- (i) the Issuer and each Subsidiary own or possess adequate rights to use its respective trademarks, trade names, patents, service mark registrations, technology, know how, copyrights, confidential information and other intellectual property necessary for the conduct of their respective businesses, except as would not have a Material Adverse Effect; to the knowledge of the Issuer, neither the Issuer nor any Subsidiary is infringing

or otherwise violating any such rights of others, except for such violations or infringements as would not, individually or in the aggregate, have a Material Adverse Effect; and the Issuer and each of its Subsidiaries have no reason to believe that the conduct of their respective businesses will conflict with, and have not received any notice of any claim of conflict or infringement with, any such rights of others except for such violation which would not have a Material Adverse Effect;

7.1.7 Compliance with U.S. law

- (i) it is a "foreign issuer" within the meaning of Regulation S under the Securities Act;
- (ii) each of the Issuer, its Affiliates and each person acting on its or their behalf (other than the Joint Bookrunners, their Affiliates or any person acting on behalf of them, as to which no representation is made) has complied and will comply with the offering restrictions requirement of Rule 903 of Regulation S;
- (iii) neither the Issuer nor any of its Affiliates nor any persons acting on its or their behalf (other than the Joint Bookrunners, their Affiliates or any person acting on behalf of them, as to which no representation is made) have engaged in any "directed selling efforts" (as defined in Regulation S) with respect to the Bonds or the Settlement Shares;
- (iv) neither the Issuer nor any of its Affiliates, nor any person acting on its or any of its Affiliates' behalf (other than the Joint Bookrunners, their Affiliates or any person acting on behalf of any of them, as to which no representation is made), directly or indirectly, (i) has made or will make offers or sales of any security, (ii) has solicited or will solicit offers to buy any security or (iii) otherwise has negotiated or will negotiate in respect of any security, in any case, under circumstances that would require registration of the Bonds or the Settlement Shares under the Securities Act; and
- (v) the Issuer is not, and as a result of the offer and sale of the Bonds and the application of the proceeds from the sale of the Bonds will not be, an "investment company" as such term is defined in under the U.S. Investment Company Act of 1940, as amended (the "**Investment Company Act**").

- 7.2 The representations and warranties pursuant to this Clause 7 shall continue in full force and effect in relation to each Joint Bookrunner notwithstanding (A) the actual or constructive knowledge of such Joint Bookrunner (if any) with respect to any of the matters referred to therein, and (B) the completion of the arrangements set out in this Agreement and the Pricing Agreement, if any, for the subscription and issue of the Bonds or the termination of this Agreement.

8 Undertakings by the Issuer

The Issuer undertakes with the Joint Bookrunners and each of them as follows:

- 8.1 **Representations and Warranties:** The Issuer will forthwith notify the Joint Bookrunners if at any time prior to payment of the proceeds of the Bonds to the Issuer on the Closing Date anything occurs which renders or may reasonably be expected to render any of the

representations, warranties and agreements contained in Clause 7 untrue or incorrect and will, without prejudice to the rights of the Joint Bookrunners under this Agreement, which shall remain unaffected, forthwith take such steps as the Joint Bookrunners may reasonably require to remedy and/or publicise the fact.

8.2 Announcements: Between the date hereof and the earlier of (A) the completion (in the determination of the Joint Bookrunners) of the distribution of the Bonds or (B) 30 calendar days after the Closing Date (both dates inclusive) the Issuer will not, and the Issuer will procure that no affiliate (as defined in Rule 405 under the Securities Act) of the Issuer or any other party acting on their behalf, will, without the prior approval of the Joint Bookrunners, make any press or other public announcement which would have a Material Adverse Effect on the marketability of the Bonds, except to the extent such public announcement is required by law in which case the Issuer will, if and to the extent permitted by law and practicable, give prior notice to the Joint Bookrunners.

8.3 Lock-up: During the period commencing on the date of this Agreement and ending 90 days after the Closing Date and without the prior written consent of the Joint Global Coordinators, on behalf of the Joint Bookrunners, the Issuer

- 8.3.1 will not offer, sell or otherwise undertake to sell or to dispose of (i) bonds convertible or exchangeable into shares of the Issuer or (ii) shares of the Issuer or (iii) other securities which are convertible into or exchangeable for or grant the right to subscribe or receive shares of the Issuer, and
- 8.3.2 will not enter into any swap or other agreement that transfers to another party, in whole or in part, any of the economic consequences of ownership of shares of the Issuer, whether any such transaction described in this sentence is to be settled by delivery of securities, in cash or otherwise.

The foregoing undertakings do not apply to (i) the issuance of the Bonds and Settlement Shares to be issued or delivered following conversion of the Bonds, (ii) the issuance of shares of the Issuer regarding employee share participation plans, (iii) shares of the Issuer issued under any stock option or similar equity compensation plans of the Issuer implemented as of the date of this Agreement, (iv) shares of the Issuer issued in connection with any warrants outstanding at the date of this Agreement, (v) shares of the Issuer issued in connection with an acquisition or joint venture directly to another party to such acquisition or joint venture, provided that each person so acquiring shares issued by the Issuer shall have agreed in writing to be bound by the terms of this Clause 8.3.

8.4 Compliance with Selling Restrictions: Neither the Issuer nor its Subsidiaries or any other persons acting on behalf or for the account of the Issuer or its Subsidiaries (save for the Joint Bookrunners or any of their affiliates, or any person acting on behalf of any of them, as to whom the Issuer makes no undertaking) will, directly or indirectly, take any action in any jurisdiction to advertise or request offers to purchase the Bonds that would constitute a public offer of the Bonds pursuant to the laws applicable in such jurisdictions.

8.5 No directed selling efforts: Neither the Issuer nor any of its Affiliates, nor any person acting on its or their behalf (except for the Joint Bookrunners or any of their affiliates, or any person acting on behalf of any of them, as to whom the Issuer makes no undertaking) will engage in any "directed selling efforts" (as defined in Regulation S) with respect to the Bonds or the Settlement Shares to be issued and/or delivered upon conversion of the Bonds.

- 8.6 Offering restrictions:** The Issuer and its Affiliates and each person acting on its or their behalf (except for the Joint Bookrunners or any of their affiliates, or any person acting on behalf of any of them, as to whom the Issuer makes no undertaking) will comply with the offering restrictions requirement of Rule 903 of Regulation S.
- 8.7 Issue or delivery of Settlement Shares:** So long as any of the Bonds remain outstanding the Issuer will have available for issue and will be authorised to issue sufficient Settlement Shares from its authorised capital or will have available for delivery Existing Shares held by the Issuer as treasury shares (*eigene Aktien*), as the case may be, to enable conversion of the Bonds and issue or delivery, as the case may be, of Settlement Shares subject to and in accordance with the Terms and Conditions.
- 8.8 Stabilisation:** Save for the Share Repurchase, the Issuer will not take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilisation or manipulation of the price of the Bonds or the Settlement Shares, whether to facilitate the sale or resale of the Bonds or the Settlement Shares or otherwise.
- 8.9 Taxes:** The Issuer will pay (A) any stamp, issue, registration, documentary or other taxes and duties, including interest and penalties, payable in connection with the creation, issue and the Bonds Offer and/or the execution or delivery of the Contracts; and (B) in addition to any amount payable by it under this Agreement, any VAT payable in respect of that amount.
- 8.10 Delivery of Closing Documents:** If the Joint Bookrunners consent to close the transaction upon delivery of a copy of a document which, pursuant to Clauses 4.2.9 and 4.2.10 hereof and **Schedule 4** hereto, has to be delivered by the Pricing Date or the Closing Date in certified form or as an original, the Issuer undertakes to send the relevant certified copy or original, respectively, to the Settlement Lead Manager on behalf of the Joint Bookrunners, promptly (*unverzüglich*) after the Closing Date.
- 8.11 Use of Proceeds:** The Issuer will use the net proceeds of the Bonds Offer for the partial repurchase of the outstanding 2021 Notes, to the extent such note will be offered to the Issuer for repurchase in the Invitation to Sell to be launched on 10 December 2020, and for the settlement or unwind of the warrants related to the 2021 Notes.
- Any remaining proceeds will be used for general corporate purposes. Such remaining net proceeds shall be applied in compliance with Clause 7.1.5(iv).
- The Issuer will not, directly or indirectly, use such proceeds, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other individual or entity to fund or facilitate any activities or business of or with any Sanctioned Person or with any person located, operating, organized or resident in any Sanctioned Country, or in any other manner that in each case would result in a violation of Sanctions by any Person (including any individual or entity participating in the offering, whether as underwriter, advisor, investor or otherwise) or otherwise be sanctionable under any Sanctions. Any provision of this Clause 8.10 shall not apply if and to the extent it is illegal, invalid or unenforceable as a result of any applicable Blocking Regulation or German law (including section 7 of the Foreign Trade and Payments Ordinance, Außenwirtschaftsverordnung, as amended) and, in such case, the legality, validity and enforceability of this Clause 8.10 shall not otherwise be affected.

9 Indemnity

- 9.1** Without prejudice to the other rights or remedies of the Joint Bookrunners, the Issuer undertakes with each of the Joint Bookrunners that it will indemnify (*freistellen*) and hold harmless (*schadlos halten*) each Joint Bookrunner, its affiliates, and each person who controls such Joint Bookrunner (within the meaning of section 15 of the Securities Act or section 20 of the U.S. Securities Exchange Act of 1934) and each of their directors, officers, employees, and agents (each an "**Indemnified Person**") against any liability, damages, loss, claim, action, cost and expense (including, without limitation, legal fees, costs and expenses properly incurred and documented) (each a "**Loss**"), which such Indemnified Person may incur or which may be made against it as a result of or in relation to:
- 9.1.1 **Failure to Issue:** any failure by the Issuer to issue the Bonds on the Closing Date (unless such failure is a result of the failure by the Joint Bookrunners to pay the net subscription monies for the Bonds); or
- 9.1.2 **Breach of Representations, Warranties and Undertakings:** any actual or (in case of a claim originally brought by a party other than the Indemnified Persons) alleged breach of the representations, warranties and undertakings contained in or made by the Issuer under this Agreement or any of the other Contracts in connection with the Bonds Offer; or
- 9.1.3 **Inaccuracy of Offering Material or Previously Publicly Disclosed Information:** any untrue or incorrect or misleading, or allegedly untrue or incorrect or misleading, statement (i) in any Offering Material or any additional written information specifically provided by the Issuer to the Joint Bookrunners in the context of this Agreement for use in connection with the Bonds Offer or (ii) in any issued or published Previously Publicly Disclosed Information, as amended from time to time, and shall pay to the relevant Indemnified Person on demand an amount equal to such Loss.
- 9.2** The indemnity by the Issuer under Clauses 9.1.1 and 9.1.2 shall not apply to the extent that it is finally judicially determined that such actions, losses, claims, damages or liabilities resulted primarily from (and then only to the extent of) the respective Joint Bookrunner's or any of its affiliates' wilful default. The indemnification obligations of the Issuer shall survive termination of this Agreement and the completion of the Offers. If any action, proceeding, claim, or demand is brought, asserted or threatened against any Indemnified Person by a third party in relation to Clauses 9.1.1 to 9.1.3 above, the relevant Joint Bookrunner shall, promptly after becoming aware thereof, notify the Issuer thereof. The Issuer shall not be liable in respect of any settlement of any such action, proceeding, claim, or demand effected without its consent, such consent not to be unreasonably withheld or delayed.
- 9.3** The Issuer agrees that its undertakings pursuant to Clauses 9.1.2 and 9.1.3 above constitute separate and absolute guarantees and that its obligation to indemnify any Indemnified Person shall exist irrespective of whether its own fault or that of its organs, directors, officers, employees, or agents is involved.
- 9.4** The foregoing indemnities shall continue in full force and effect notwithstanding the completion of the arrangements set out in this Agreement for the Bonds Offer and for the subscription and issue of the Bonds or the termination of this Agreement.

- 9.5** The obligations of the Issuer under this Clause 9 shall be in addition to any liabilities which the parties to this Agreement may otherwise have.

10 No Fiduciary Duties

The Issuer acknowledges and agrees that the Joint Bookrunners are acting solely pursuant to a contractual relationship with the Issuer on an at arm's length basis with respect to the Bonds Offer and not as a financial advisor, agent or a fiduciary to the Issuer or any other person. Additionally, the Issuer acknowledges that no Joint Bookrunner is advising the Issuer or any other person as to any legal, tax, investment, accounting or regulatory matters in any jurisdiction, nor is any Joint Bookrunner providing any investment advice or acting as a financial adviser. The Issuer shall consult with their own advisors concerning such matters and shall be responsible for making its own independent investigation and appraisal of the transactions contemplated hereby, and the Joint Bookrunners shall have no responsibility and liability to the Issuer with respect thereto. The Issuer further acknowledges and agrees that any review by the Joint Bookrunners of the Offering Materials, the Issuer, the issue of the Bonds and the Bonds Offer and other matters relating thereto will be performed solely for the benefit of the Joint Bookrunners and shall not be on behalf of the Issuer or any other person. To the extent permissible by law, the Issuer acknowledges that no fiduciary duty is owed to it by any Joint Bookrunner in relation to the timing, terms or structure of the Bonds Offer, or for the pricing of the Bonds in the Bonds Offer.

11 Termination (*Rücktritt*)

- 11.1 Joint Bookrunners' ability to terminate:** Notwithstanding anything contained in this Agreement, the Joint Global Coordinators, on behalf of the Joint Bookrunners may, by notice to the Issuer, which may be given at any time prior to payment to the Issuer of the net subscription monies for the Bonds on the Closing Date, terminate this Agreement in any of the following circumstances:

- 11.1.1** if there shall have come to the notice of any of the Joint Bookrunners any breach of, or any event rendering untrue or incorrect, any of the warranties and representations of the Issuer contained in Clause 7 or any failure by the Issuer to perform any of its undertakings or agreements in this Agreement; or
- 11.1.2** if any of the conditions specified in Clause 4.2 and **Schedule 4** has not been satisfied and has not been waived by the Joint Global Coordinators, on behalf of the Joint Bookrunners; or
- 11.1.3** if there shall have occurred a Force Majeure Event which would in the opinion of the Joint Global Coordinators, on behalf of Joint Bookrunners, be impracticable or inadvisable to market the Bonds or to enforce contracts for the sale of the Bonds and/or likely to prejudice materially the success of the Bonds Offer, the issue and placement of the Bonds, the distribution of the Bonds or dealings in the Bonds in the secondary market.

A "**Force Majeure Event**" shall be deemed to have occurred in the following events: (A) a suspension or material limitation in trading in securities of the Issuer or in securities generally on the London Stock Exchange, Euronext Amsterdam, Frankfurt Stock Exchange, NASDAQ or the New York Stock Exchange; (B) a general moratorium on banking activities in Amsterdam, Frankfurt, London or New

York declared by the relevant authorities or a material disruption in commercial banking or securities settlement, payment or clearance services in the European Economic Area or the United States; (C) the outbreak or escalation of hostilities involving the United States, the United Kingdom, The Netherlands or Germany, or the declaration by the United States, the United Kingdom or any Member State of the European Economic Area of a national emergency or war which have a material adverse impact on the financial markets in the United States, the United Kingdom, The Netherlands or Germany; or (D) the occurrence of any acts of terrorism or any other calamity or crisis or any change in financial, political or economic conditions or currency exchange rates or currency control in the United States, the United Kingdom or any Member State of the European Economic Area which have a material adverse impact on the financial markets in the United States, the United Kingdom, The Netherlands or Germany; or (E) a change or development involving a prospective change in Dutch taxation affecting the Issuer, the Bonds or the transfer thereof.

11.2 Consequences of termination: Upon such notice being given, this Agreement shall terminate and be of no further effect and no party shall be under any liability to any other in respect of this Agreement, except that the Issuer shall remain liable for the payment of all costs and expenses referred to in Clause 3.5.2 and already incurred or incurred in consequence of such termination. The right of the Joint Bookrunners to any further claims the Joint Bookrunners may be entitled to make against the Issuer (including, but not limited to, the indemnities under Clause 9 hereof) will also remain unaffected by the termination.

12 Communications

12.1 Addresses: Any communication shall be given by letter, fax or e-mail

(a) if to the Issuer, to it at:

QIAGEN N.V.

Hulsterweg 82
5912 PL Venlo
The Netherlands

Tel: + 31 (77) 355-6644 or +49 (2103) 2911856

E-mail: Thomas.neidert@qiagen.com and global.treasury@qiagen.com

Attention: Global Treasury

(b) if to the Joint Bookrunners, to them at:

Deutsche Bank Aktiengesellschaft

Mainzer Landstraße 11-17
60329 Frankfurt am Main
Germany

Tel: +49 69 910 36451

Attention: Equity Capital Markets

Goldman Sachs International

Plumtree Court
25 Shoe Lane

London EC4A 4AU
United Kingdom
Tel: +44 20 7774 1000
Email: gs-EqSynd-EMEA@ny.email.gs.com
Attention: Equity Capital Markets

Merrill Lynch International
2 King Edward Street
London EC1A 1HQ
United Kingdom
Tel: +44 (0)20 7995 3700

Email: ecm_london@bofa.com
Attention: Equity Linked Capital Markets

BNP PARIBAS
4, rue d'Antin
75002 Paris
France
Tel: + 33 1 42 98 41 44

Email: dl.ecmcoo@bnpparibas.com
Attention: ECM COO / Florence Sztuder

HSBC Trinkaus & Burkhardt AG
Königsallee 21/23
40212 Düsseldorf
Germany
Tel: +49 211 910 2190

Email: Thomas.wohlgefahrt@hsbc.de
Attention: Thomas Wohlgefahrt

UniCredit Bank AG
Arabellastraße 12
81925 Munich
Germany
Tel: +49 89 37812880 and +49 89 37811629

Email: eql.uc@unicredit.eu and ecmgermany.eu@unicredit.de
Attention: Matthias Janssen and Francesco Pilardi

12.2 Effectiveness: Any such communication shall take effect upon actual receipt (*Zugang*).

13 Product Governance

13.1 Solely for the purposes of the requirements of Article 9(8) of the MiFID Product Governance rules under EU Delegated Directive 2017/593 (the "**Product Governance Rules**") regarding the mutual responsibilities of manufacturers under the product governance requirements contained within: (a) Directive 2014/65/EU on markets in financial instruments, as amended ("**MiFID II**"); (b) Articles 9 and 10 of the Delegated

Directive; and (c) local implementing measures (the "**MiFID II Product Governance Requirements**");

- 13.1.1 Each of the Joint Bookrunners (each a "**Manufacturer**" and together the "**Manufacturers**") acknowledges to each other Manufacturer that it understands the responsibilities conferred upon it under the Product Governance Rules relating to each of the product approval process, the target market and the proposed distribution channels as applying to the Bonds.
- 13.1.2 The Issuer notes the application of the Product Governance Rules and acknowledges the target market and distribution channels identified as applying to the Bonds by the Manufacturers.

14 Recognition of the U.S. Special Resolution Regimes

- 14.1 In the event that any Joint Bookrunner that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Joint Bookrunner of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.
- 14.2 In the event that any Joint Bookrunner that is a Covered Entity or a Covered Affiliate of any such Joint Bookrunner becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Joint Bookrunner are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

"Covered Affiliate" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k).

"Covered Entity" means any of the following:

- (i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b);
- (ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or
- (iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

"Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

"U.S. Special Resolution Regime" means each of (i) the U.S. Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

15 Final Clauses

- 15.1 This Agreement shall be governed by, and construed in accordance with, German law.
- 15.2 Any non-contractual rights and obligations arising out of or in connection with this Agreement shall also be governed by German law.

- 15.3** Place of performance is Frankfurt am Main, Germany.
- 15.4** Any action or other legal proceedings (the "**Proceedings**") arising out of or in connection with this Agreement may be brought in the District Court (*Landgericht*) in Frankfurt am Main, Germany. Nothing contained herein shall limit the right of any party hereto to take Proceedings against any other party hereto in any other court of competent jurisdiction, nor shall the taking of Proceedings in one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction, whether concurrently or not.
- 15.5** Any provision of this Agreement, including this Clause 15.5, may be amended or supplemented only if the Issuer and the Joint Bookrunners so agree in writing.
- 15.6** Should any provision contained in this Agreement be or become invalid, illegal or unenforceable or incomplete in any jurisdiction, the validity, legality and enforceability of the remaining provisions (or of such provision in any other jurisdiction) will not in any way be affected or impaired thereby with respect to any other party or parties hereto to the fullest extent legally possible. Such invalid, illegal or unenforceable provision shall be replaced by means of supplementary interpretation (*ergänzende Vertragsauslegung*) by a valid, legal and enforceable provision, which most closely approximates the parties' commercial intention. This shall also apply *mutatis mutandis* to any unintended gaps (*Vertragslücken*) in this Agreement.
- 15.7** The Schedules to this Agreement form part of this Agreement.
- 15.8** Each of the Joint Bookrunners together with their respective affiliates comprise full service securities firms engaged in activities and businesses, including among others, securities, commodities and derivatives trading, foreign exchange and other brokerage activities, research publication, and principal investing, as well as providing investment, corporate and private banking, asset and investment management, financing and financial advisory services and other commercial services and products to a wide range of corporations, governments and individuals from which conflicting interests or duties, or a perception thereof, may arise.

16 Counterparts

This Agreement may be executed in any number of counterparts, all of which, taken together, shall constitute one and the same agreement and any party may enter into this Agreement by executing a counterpart, whereby the parties to this Agreement agree that the exchange of electronic copies of signed documents shall have the same validity as originals.

Schedule 1
Form of Terms and Conditions of the Bonds

Schedule 2
Form of Global Bond

THIS GLOBAL BOND AND THE SHARES TO BE DELIVERED UPON THE CONVERSION OF THE BONDS HAVE NOT AND WILL NOT BE REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"). NEITHER THIS GLOBAL BOND NOR ANY PORTION HEREOF MAY BE OFFERED OR SOLD WITHIN THE UNITED STATES OF AMERICA OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS UNLESS AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT IS AVAILABLE. THE GLOBAL BOND MAY NOT BE CONVERTED INTO SHARES BY OR ON BEHALF OF A PERSON LOCATED WITHIN THE UNITED STATES UNLESS REGISTERED UNDER THE SECURITIES ACT OR AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

ISIN: DE000A286LP0

Common Code: [●]

German Securities Code (WKN): A286LP

QIAGEN N.V.

with corporate seat (*statutaire zetel*) in Venlo, The Netherlands

(the "**Issuer**")

GLOBAL BEARER BOND

representing

USD [●]

(in words: [●] US dollars)

Convertible Bonds due 2027

convertible into ordinary registered shares of QIAGEN N.V.,
divided into bearer bonds in the principal amount of USD 200,000 each
and ranking *pari passu* among themselves.

This global bearer bond (the "**Global Bond**") represents convertible bonds of the Issuer in the aggregate principal amount of USD [●], divided into Bonds in the principal amount of USD 200,000 each (the "**Bonds**"), and having the provisions specified, in the Terms and Conditions as annexed hereto. Definitive notes representing the Bonds will not be issued. References in this Global Bond to the "**Terms and Conditions**" shall be to the Terms and Conditions as annexed hereto. Words and expressions defined or set out in the Terms and Conditions shall have the same meaning when used in this Global Bond.

The Issuer, subject to and in accordance with the Terms and Conditions, agrees to pay to the bearer of this Global Bond for on-payment to the Bondholders any sums payable in respect thereof under the Terms and Conditions.

The Issuer, subject to and in accordance with the Terms and Conditions, undertakes to deliver to the Bondholders upon conversion ordinary registered shares of the Issuer.

This Global Bond shall be deposited with Clearstream Banking AG, Frankfurt am Main ("**Clearstream Frankfurt**"), and is issued exclusively for the purpose of being held in safe custody by or for the account of Clearstream Frankfurt.

Clearstream Frankfurt is authorised to reduce the principal amount of this Global Bond by the aggregate of the principal amounts of the Bonds in relation to which the conversion has been exercised or which have been redeemed and cancelled. The relevant number of Bonds which are represented by this Global Bond will result from the relevant current electronic data documentation of Clearstream Frankfurt.

This Global Bond is governed by, and shall be construed in accordance with, German law.

This Global Bond will only be valid if it bears the handwritten signatures of two duly authorised representatives of the Issuer and the control signature of a person duly authorised by Deutsche Bank AG, London Branch.

Venlo, 17, December 2020

QIAGEN N.V.

By:

(Authorised Signatory)

By:

(Authorised Signatory)

Authentication Signature
(without liability, warranty or recourse):

(Authorised Signatory)

[The Terms and Conditions must be annexed hereto.]

Schedule 3

Form of Pricing Agreement

10 December 2020

QIAGEN N.V.

as Issuer

and

DEUTSCHE BANK AKTIENGESELLSCHAFT

and

Goldman Sachs international

and

MERRILL LYNCH INTERNATIONAL

as Joint Global Coordinators and Joint Bookrunners

and

BNP PARIBAS

and

HSBC TRINKAUS & BURKHARDT AG

and

UNICREDIT BANK AG

as Joint Bookrunners

PRICING AGREEMENT

relating to the

QIAGEN N.V.

USD [●] Convertible Bonds due 2027

ISIN DE000A286LP0

convertible into ordinary registered shares of

QIAGEN N.V.

This Pricing Agreement (the "Pricing Agreement") is dated 10 December 2020 and made between:

- (1) **QIAGEN N.V.**, a limited liability company (*naamloze vennootschap*) incorporated under the laws of the Netherlands, with its corporate seat (*statutaire zetel*) at Venlo, The Netherlands, and its registered office at Hulsterweg 82, 5912 PL Venlo, The Netherlands, and registered with the Dutch Trade Register of the Chamber of Commerce under number 12036979 (the "Issuer");
- (2) **DEUTSCHE BANK AKTIENGESELLSCHAFT, GOLDMAN SACHS INTERNATIONAL, and MERRILL LYNCH INTERNATIONAL**, (together, the "Joint Global Coordinators"); and
- (3) **BNP PARIBAS, HSBC TRINKAUS & BURKHARDT AG, and UNICREDIT BANK AG** (together with the Joint Global Coordinators, the "Joint Bookrunners").

Recital:

On 10 December 2020, the Issuer and the Joint Bookrunners entered into a subscription agreement with respect to the issuance of Convertible Bonds due 2027, ISIN DE000A286LP0, in an aggregate principal amount of USD [●] (the "Bonds", which expression where the context so admits shall include the Global Bond (as defined below) to be delivered in respect of the Bonds) (the "Subscription Agreement") which provides that the final terms and conditions of the Bonds, in particular the aggregate principal amount and the conversion price of the Bonds will be determined in a bookbuilding process and fixed in this Pricing Agreement.

IT IS AGREED as follows:

1 Certain Definitions; Subscription Agreement

- 1.1 References to capitalised terms not defined in this Pricing Agreement are to those terms as defined in the Subscription Agreement and in the Terms and Conditions (as defined in the Subscription Agreement), except where the context requires otherwise.
- 1.2 In case of any conflicts between the provisions contained in (A) this Pricing Agreement, (B) the Subscription Agreement or (C) any other agreement entered into between the Issuer and the Joint Bookrunners prior to the date of this Pricing Agreement and relating to the transaction contemplated by this Pricing Agreement, the provisions contained in this Pricing Agreement shall prevail.

2 Terms of the Issuance of the Bonds

The terms of the Bonds have been agreed between the parties to this Pricing Agreement as follows:

Maturity Date:	[●] 2027
Aggregate Principal Amount of Bonds:	USD [●]
Issue Price:	[100.00] per cent.
Reference Share Price:	USD [●] per share
Conversion Premium:	[●] per cent.
Initial Conversion Price:	USD [●]

3 Miscellaneous

- 3.1** This Pricing Agreement shall be governed by, and construed in accordance with, German law.
- 3.2** Any non-contractual rights and obligations arising out of or in connection with this Pricing Agreement shall also be governed by German law.
- 3.3** Place of performance is Frankfurt am Main, Germany.
- 3.4** Any action or other legal proceedings (the "**Proceedings**") arising out of or in connection with this Pricing Agreement may be brought in the District Court (*Landgericht*) in Frankfurt am Main, Germany. Nothing contained herein shall limit the right of any party hereto to take Proceedings against any other party hereto in any other court of competent jurisdiction, nor shall the taking of Proceedings in one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction, whether concurrently or not.
- 3.5** Any provision of this Pricing Agreement, including this Clause 3.5, may be amended or supplemented only if the Issuer and the Joint Bookrunners agree in writing.
- 3.6** Should any provision contained in this Pricing Agreement be or become invalid, illegal or unenforceable or incomplete in any jurisdiction, the validity, legality and enforceability of the remaining provisions (or of such provision in any other jurisdiction) will not in any way be affected or impaired thereby with respect to any other party or parties hereto to the fullest extent legally possible. Such invalid, illegal or unenforceable provision shall be replaced by means of supplementary interpretation (*ergänzende Vertragsauslegung*) by a valid, legal and enforceable provision, which most closely approximates the parties' commercial intention. This shall also apply *mutatis mutandis* to any unintended gaps (*Vertragslücken*) in this Pricing Agreement.

Signature Page

to the Pricing Agreement

This Pricing Agreement has been entered into on the date first stated above.

QIAGEN N.V.

By:

By:

DEUTSCHE BANK AKTIENGESELLSCHAFT

By:

GOLDMAN SACHS INTERNATIONAL

By:

MERRILL LYNCH INTERNATIONAL

By:

BNP PARIBAS

By:

By:

HSBC TRINKAUS & BURKHARDT AG

By:

UNICREDIT BANK AG

By:

Schedule 4

List of Documents to be delivered pursuant to Clause 4.2.9 and Clause 4.2.10

- 1 List of Documents to be delivered pursuant to Clause 4.2.9

A copy of each of the following documents relating to the Issuer:

- 1.1 the current Articles certified by authorised signatories of the Issuer;
- 1.2 an electronic extract from the Trade Register of the Chamber of Commerce (*Kamer van Koophandel, afdeling Handelsregister*) regarding the Issuer dated the Pricing Date; and
- 1.3 copies of all corporate and other consents, approvals or authorisations, including the managing board resolutions (including a power of attorney) and the supervisory board resolutions (which resolutions include the Authorisation), required by the Issuer in connection with the issuance of the Bonds and the entry into the Contracts and the performance by the Issuer of its obligations under the Bonds and the Contracts, which shall be delivered to the Settlement Lead Manager on behalf of the Joint Bookrunners on or before the Closing Date.

- 2 List of Documents to be delivered pursuant to Clause 4.2.10

- 2.1 Executed legal opinions, in form and substance satisfactory to the Joint Bookrunners, dated the Closing Date, of:
 - 2.1.1 Freshfields Bruckhaus Deringer LLP, legal advisers to the Joint Bookrunners as to German law;
 - 2.1.2 Linklaters LLP, legal advisers to the Issuer as to German law; and
 - 2.1.3 Linklaters LLP, legal advisers to the Issuer as to Dutch law.
- 2.2 An original certificate, dated the Closing Date, signed by two duly authorised officers of the Issuer, substantially in the form set out in **Schedule 6** (the "Closing Certificate").
- 2.3 An electronic extract from the Trade Register of the Chamber of Commerce (*Kamer van Koophandel, afdeling Handelsregister*) regarding the Issuer dated the Closing Date.

Schedule 5

Selling Restrictions

- 1 **General:** No action has been or will be taken in any jurisdiction by the Joint Bookrunners that would to the best of their knowledge permit a public offer of the Bonds, or possession or distribution of any offering or publicity material relating to the Bonds, in any country or jurisdiction where action for that purpose is required
- 2 **Prohibition of Sales to Retail Investors in the EEA and the United Kingdom:** The Bonds are not intended, to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA") or the United Kingdom. For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU ("MiFID II") or (ii) a customer within the meaning of Directive 2016/97/EU (the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Accordingly, each Joint Bookrunner represents, warrants and agrees that it has not offered or sold, and will not offer or sell, any of the Bonds to any retail investor in the EEA or the United Kingdom.
- 3 **United States:**
 - 3.1 **The Bonds and the Settlement Shares:** The Bonds and the Settlement Shares to be delivered on conversion of the Bonds (together, the "Securities") have not been and will not be registered under the U.S. Securities Act of 1933 (the "Securities Act") and may not be offered or sold in the United States or to, or for the account or benefit of, U.S. persons, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. Each of the Joint Bookrunners represents that it has not offered or sold, and agrees that it will not offer or sell, any of the Securities constituting part of its allotment except outside of the United States to non-U.S. persons in an "offshore transaction" accordance with Rule 903 of Regulation S under the Securities Act ("Regulation S"). Accordingly, neither it, its affiliates nor any persons acting on its or their behalf have engaged or will engage in any directed selling efforts with respect to the Bonds and the Settlement Shares to be delivered upon conversion of the Bonds and all such persons have complied and will comply with the offering restrictions requirement of Regulation S. Terms used in this paragraph have the meanings given to them by Regulation S.
 - 3.2 Such Joint Bookrunner has offered and sold the Bonds, and will offer and sell the Bonds, (i) as part of their distribution at any time and (ii) otherwise until 40 days after the later of the commencement of the offering of the Bonds and the Closing Date, only in accordance with Regulation S.
 - 3.3 At or prior to the confirmation of sale of any Bonds sold in reliance on Regulation S, such Joint Bookrunner will have sent to each distributor, dealer or other person receiving a selling concession, fee or other remuneration that purchase Bonds from it during the distribution compliance period a confirmation or notice to substantially the following effect:

"The Bonds covered hereby have not been registered under the U.S. Securities Act of 1933, as amended (the Securities Act), and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons (i) as part of their distribution at any time or (ii) otherwise until 40 days after the later of the commencement of the offering of the Bonds and the date of

original issuance of the Bonds, except in accordance with Regulation S. Terms used above have the meanings given to them by Regulation S."

- 3.4** Each Joint Bookrunner represents that it has not entered and agrees that it will not enter into any contractual arrangement with any distributor (as that term is defined in Regulation S) with respect to the distribution or delivery of the Securities, except with its affiliates or with the prior written consent of the Issuer.
- 4** **Canada:** Each Joint Bookrunner acknowledges that the Bonds and the Settlement Shares (the "**Securities**") have not been and will not be qualified for distribution by prospectus under the securities laws of any province or territory of Canada and may not be offered or sold in Canada except pursuant to an exemption from, or in a transaction not subject to, the prospectus requirements of Canadian securities laws. Each of the Joint Bookrunners acknowledges and agrees that the Bonds are being made available for sale in Canada only to purchasers who qualify as both an "accredited investor" and a "permitted client" within the meaning of applicable Canadian securities laws.
- 5** **United Kingdom of Great Britain and Northern Ireland:** Each Joint Bookrunner represents, warrants and agrees that:

 - (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000 (the "**FSMA**")) received by it in connection with the issue or sale of any Bonds and the Bonds Offer in circumstances in which section 21(1) of the FSMA does not apply to the Issuer; and
 - (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Bonds and the Bonds Offer in, from or otherwise involving the United Kingdom.

Schedule 6
Form of Closing Certificate
[On the letterhead of the Issuer]

Deutsche Bank Aktiengesellschaft

Mainzer Landstraße 11-17
60329 Frankfurt am Main
Germany

Goldman Sachs International

Plumtree Court
25 Shoe Lane
London EC4A 4AU
United Kingdom

Merrill Lynch International

2 King Edward Street
London EC1A 1HQ
United Kingdom
HSBC Trinkaus & Burkhardt AG

16, boulevard des Italiens
75009 Paris
France
UniCredit Bank AG

Königsallee 21/23
40212 Düsseldorf
Germany

Arabellastraße 12
81925 Munich
Germany

(together the "Joint Bookrunners" of the issue of Bonds referred to below)

Dear Sirs,

QIAGEN N.V.

with corporate seat (*statutaire zetel*) in Venlo, The Netherlands
(the "Issuer")

USD [●] Convertible Bonds due 2027

ISIN DE000A286LP0
convertible into ordinary registered shares of QIAGEN N.V.,

(the "Bonds")
Closing Certificate

Reference is made to the subscription agreement in respect of the Bonds dated 10 December 2020 (the "**Subscription Agreement**") and the pricing agreement in respect of the Bonds dated 10 December 2020 (the "**Pricing Agreement**"). References to capitalised terms used but not defined herein are to those terms as defined in the Subscription Agreement.

We hereby certify on behalf of the Issuer that

- (a) as at the date hereof there has been no Material Adverse Change in relation to the Issuer or the Group since the time of the execution of the Subscription Agreement;
- (b) the representations and warranties of the Issuer contained in the Subscription Agreement are true and correct in all respects as at, and as if made on, the date hereof; and

- (c) the Issuer has performed all of its obligations under the Subscription Agreement to be performed on or before the date hereof and is not in breach of any provision of the Contracts.

In addition, we hereby confirm that

- (x) the articles of association (*Satzung*) of the Issuer, dated as of 17 January 2020, and delivered to you on [●] December 2020 are, as at the date hereof, still valid and in full force and effect and since their date no shareholders' resolution has been passed to amend the same and no invitation for a shareholders' meeting of the Issuer containing a proposal to amend the same has been published; and
- (y) each copy of documents with respect to the Issuer delivered to you in accordance with Clause 4.2.9 and Clause 4.2.10 of, and Schedule 4 to, the Subscription Agreement is a true copy of the relevant original.

17 December 2020

Yours sincerely,

QIAGEN N.V.

By:

Title:

By:

Title:

Signature Page

to the Subscription Agreement

This Subscription Agreement has been entered into on the date first stated above.

QIAGEN N.V.

/s/ Melanie Prang

By: Melanie Prang

/s/ Thomas Neidert

By: Thomas Neidert

DEUTSCHE BANK AKTIENGESELLSCHAFT

/s/ Xavier Lagache

By: Xavier Lagache
Managing Director

/s/ Mark Schmitz

By: Mark Schmitz
Managing Director

GOLDMAN SACHS INTERNATIONAL

/s/ Celine Assouling

By: Celine Assouling

MERRILL LYNCH INTERNATIONAL

/s/ Juan Rodriguez Andrade

By: Juan Rodriguez Andrade

BNP PARIBAS

/s/ Thierry Petit

By: Thierry Petit
Head of EMEA EQL

/s/ Florence Sztuder

By: Florence Sztuder
COO of ECM EMEA

HSBC TRINKAUS & BURKHARDT AG

/s/ Bernd Wiedemuth

By: Bernd Wiedemuth
Director

/s/ Christopher Johannson

By: Christopher Johannson
Associate Director

UNICREDIT BANK AG

/s/ Matthias Janssen

By: Matthias Janssen
Managing Director

/s/ Francesco Pilardi

By: Francesco Pilardi
Director

THIS GLOBAL BOND AND THE SHARES TO BE DELIVERED UPON THE CONVERSION OF THE BONDS HAVE NOT AND WILL NOT BE REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"). NEITHER THIS GLOBAL BOND NOR ANY PORTION HEREOF MAY BE OFFERED OR SOLD WITHIN THE UNITED STATES OF AMERICA OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS UNLESS AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT IS AVAILABLE. THE GLOBAL BOND MAY NOT BE CONVERTED INTO SHARES BY OR ON BEHALF OF A PERSON LOCATED WITHIN THE UNITED STATES UNLESS REGISTERED UNDER THE SECURITIES ACT OR AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

ISIN: DE000A286LP0

Common Code: 227506199

German Securities Code (WKN): A286LP

QIAGEN N.V.

with corporate seat (*statutaire zetel*) in Venlo, The Netherlands

(the "**Issuer**")

GLOBAL BEARER BOND

representing

up to USD 500,000,000

(in words: five hundred million US dollars)

Convertible Bonds due 2027

convertible into ordinary registered shares of QIAGEN N.V.,
divided into bearer bonds in the principal amount of USD 200,000 each

and ranking *pari passu* among themselves.

This global bearer bond (the "**Global Bond**") represents convertible bonds of the Issuer in the aggregate principal amount of up to USD 500,000,000, divided into Bonds in the principal amount of USD 200,000 each (the "**Bonds**"), and having the provisions specified, in the Terms and Conditions as annexed hereto. Definitive bonds representing the Bonds will not be issued. References in this Global Bond to the "**Terms and Conditions**" shall be to the Terms and Conditions as annexed hereto. Words and expressions defined or set out in the Terms and Conditions shall have the same meaning when used in this Global Bond.

The Issuer, subject to and in accordance with the Terms and Conditions, agrees to pay to the bearer of this Global Bond for on-payment to the Bondholders any sums payable in respect thereof under the Terms and Conditions.

The Issuer, subject to and in accordance with the Terms and Conditions, undertakes to deliver to the Bondholders upon conversion ordinary registered shares of the Issuer.

This Global Bond shall be deposited with Clearstream Banking AG, Frankfurt am Main ("**Clearstream Frankfurt**"), and is issued exclusively for the purpose of being held in safe custody by or for the account of Clearstream Frankfurt.

Clearstream Frankfurt is authorised to reduce the principal amount of this Global Bond by the aggregate of the principal amounts of the Bonds in relation to which the conversion has been exercised or which have been redeemed and cancelled. The relevant number of Bonds which are

represented by this Global Bond will result from the relevant current electronic data documentation of Clearstream Frankfurt.

This Global Bond is governed by, and shall be construed in accordance with, German law.

This Global Bond will only be valid if it bears the handwritten signatures of two duly authorised representatives of the Issuer and the control signature of a person duly authorised by Deutsche Bank Aktiengesellschaft.

Venlo, 17 December 2020

QIAGEN N.V.

By: /s/ Thomas Neidert
(Authorised Signatory)
Thomas Neidert

By: /s/ Melanie Prang
(Authorised Signatory)
Melanie Prang

Authentication Signature
(without liability, warranty or recourse):
/s/
(Authorised Signatory)

**NOT FOR DISTRIBUTION IN OR INTO THE U.S., AUSTRALIA, JAPAN, SOUTH AFRICA OR
ANY OTHER JURISDICTION IN WHICH OFFERS OR SALES WOULD BE PROHIBITED BY
APPLICABLE LAW OR TO US PERSONS**

Terms and Conditions of the Bonds

(the "Terms and Conditions")

§ 1 Definitions

In these Terms and Conditions, the following terms will have the following meanings:

(a) *General Definitions.*

"**Agent(s)**" has the meaning set out in § 13(a).

"**Aggregate Conversion Principal Amount**" means the aggregate principal amount of Bonds delivered by a Bondholder for conversion with a single Conversion Notice as determined by the Principal Paying Agent in accordance with § 8(b)(iii).

"**BGB**" means the German Civil Code (*Bürgerliches Gesetzbuch*), as amended from time to time.

"**Bond(s)**" has the meaning set out in § 2(a).

"**Bondholder**" means the holder of a co-ownership interest or similar right in the Global Bond.

"**Bondholders' Representative**" has the meaning set out in § 17(e).

"**Business Day**" means each day (other than a Saturday or Sunday) on which (a) the Clearing System settles payments and (b) commercial banks and foreign exchange markets in New York City and Frankfurt am Main are open for business.

"**Calculation Agent**" has the meaning set out in § 13(a).

"**Calculation Period**" means, in respect of any Conversion Date, (i) the period of 25 consecutive Trading Days from and including the second Scheduled Trading Day immediately following such Conversion Date or (ii) such lesser number of Trading Days as are comprised in the period commencing on and including the second Scheduled Trading Day immediately following the relevant Conversion Date and ending on and including the 26th Scheduled Trading Day following such Conversion Date.

"**Capital Markets Indebtedness**" means any present or future obligation for the payment or repayment of borrowed monies (including obligations by reason of any guarantee or other assumption of liability for any such obligation of a third-party) under any bonds, notes or other securities with an original maturity of more than one year which are or are capable of being quoted, listed, dealt in or traded on a stock exchange, an over-the-counter-market or other recognised securities market.

"**Clearing System**" means Clearstream Banking AG, Frankfurt am Main ("Clearstream Frankfurt") or any successor in such capacity.

"**Closing Price**" on any Trading Day means

(i) the official closing price of the Ordinary Share on the relevant Trading Day as reported on the Relevant Market; or

(ii) if no such official closing price of the Ordinary Share can be so determined, the last reported official quotation of the Ordinary Share on the Relevant Market on the relevant Trading Day; or

- (iii) if the Closing Price cannot be so determined, the Closing Price as determined by an Independent Expert on the basis of such quotations or other information as such Independent Expert considers appropriate; any such determination will be conclusive. Any reference in these Terms and Conditions to the Closing Price will include, if the reporting of the Closing Price is discontinued, a reference to a quotation which replaces the Closing Price (x) by operation of law or (y) on the basis of generally accepted market practice,

in each case translated (if necessary) into US dollars at the Relevant FX Rate on such Trading Day.

"Conversion Agent(s)" has the meaning set out in § 13(a).

"Custodian" means any bank or other financial institution with which the Bondholder maintains a securities account in respect of any Bonds and having an account maintained with the Clearing System and includes Clearstream Frankfurt.

"Delisting Event Notice" has the meaning set out in § 5(e)(i).

"Delisting Event Period" has the meaning set out in § 5(e)(iii).

"Delisting Event" has the meaning set out in § 5(e)(iii).

"Event of Default" has the meaning set out in § 12(a).

"Financial Year" means the financial year as set out in the articles of association of the Issuer.

"Global Bond" has the meaning set out in § 2(b).

"Independent Expert" means an independent bank of international standing or an independent financial adviser with relevant expertise appointed by the Issuer at its own expense, which may be the Calculation Agent.

"Issuer" means Qiagen N.V.

"Material Subsidiary" means a Subsidiary of the Issuer that, on a non-consolidated basis, has combined third-party revenues (from non-affiliated parties) prepared in accordance with accounting principles generally accepted in the United States, in excess of 5 per cent. of the consolidated revenues of the Issuer for the most recently completed fiscal year.

"Maturity Date" means 17 December 2027.

"Ordinary Share" means the ordinary registered share of the Issuer, with ISIN NL0012169213 as at the date of issue of the Bonds.

"Paying Agent(s)" has the meaning set out in § 13(a).

"Principal Amount" has the meaning set out in § 2(a).

"Principal Conversion Agent" has the meaning set out in § 13(a).

"Principal Paying Agent" has the meaning set out in § 13(a).

"Qualified Majority" has the meaning set out in § 17(b).

"Redemption Date" means the date fixed for redemption in the Issuer's notice in accordance with and subject to § 5(b) or § 5(c), which must be a Business Day.

"Relevant Market" means

- (i) in the case of the Ordinary Share, the New York Stock Exchange, or if at the relevant time the Ordinary Share is no longer traded on the New York Stock Exchange, such other stock

- exchange or securities market on which the Ordinary Share is mainly traded at the relevant time; and
- (ii) in the case of any other securities, rights or other assets, such stock exchange or securities market on which such other securities, rights or other assets are mainly traded at the relevant time.

"Share Price" on any Trading Day means

- (i) the volume-weighted average price (where the Relevant Market is the New York Stock Exchange, the Nasdaq Global Select or the Nasdaq Global Market (or any of their respective successors), in composite transactions) of the Ordinary Share on the Relevant Market on the relevant Trading Day as appearing on Bloomberg screen page HP in respect of the Ordinary Share (setting "Weighted Average Line") on the Bloomberg information system (or any successor screen page or setting) (such Bloomberg page being, as at the date of issue of the Bonds, QGEN US Equity HP), or
- (ii) if no volume-weighted average price of the Ordinary Share is available from the Bloomberg information system as described in clause (i) above, the volume-weighted average price (where the Relevant Market is the New York Stock Exchange, the Nasdaq Global Select or the Nasdaq Global Market (or any of their respective successors), in composite transactions) of the Ordinary Share on the Relevant Market on the relevant Trading Day as derived from such Relevant Market (or other appropriate source as determined by an Independent Expert), or
- (iii) if no volume-weighted average price of the Ordinary Share can be so determined, the official closing price of the Ordinary Share on the relevant Trading Day as reported on the Relevant Market, or
- (iv) if no such official closing price of the Ordinary Share can be so determined, the last reported official quotation of the Ordinary Share on the Relevant Market on the relevant Trading Day, or
- (v) if the Share Price cannot be determined in accordance with clauses (i) to (iv) above, the Share Price as determined by an Independent Expert on the basis of such quotations or other information as such Independent Expert considers appropriate; any such determination will be conclusive. Any reference in these Terms and Conditions to the Share Price will include, if the reporting of the Share Price is discontinued, a reference to a quotation which replaces the Share Price (x) by operation of law or (y) on the basis of generally accepted market practice,

in each case translated (if necessary) into US dollars at the Relevant FX Rate on such Trading Day.

"Scheduled Trading Day" means each day (other than a Saturday or a Sunday) on which the Relevant Market for the Ordinary Shares is scheduled to be open for business as set out in the trading calendar first published by such Relevant Market in respect of the relevant calendar year, regardless of whether (i) the Relevant Market is actually open for business on such day or (ii) such day is a Trading Day for the Ordinary Share.

"SchVG" has the meaning set out in § 17(a).

"Security Interest" has the meaning set out in § 3(b).

"Shareholders" means the holders of the Ordinary Shares.

"Subsidiary" means (a) with respect to any Person, any corporation, association, partnership or other business entity of which more than 50 per cent. of the total voting power of shares of capital stock or other interests (including partnership interests) are entitled (without regard to the occurrence of any

contingency) to vote in the election of directors, managers, general partners or trustees thereof and is at the time owned or controlled, directly or indirectly, by (i) such Person; (ii) such Person and one or more Subsidiaries of such Person; or (iii) one or more Subsidiaries of such Person or (b) a subsidiary within the meaning of Article 2:24a of the Dutch Civil Code.

"**Terms and Conditions**" means these terms and conditions of the Bonds.

"**Trading Day**" means,

- (i) (other than for purposes of the determination of any Security Price pursuant to clause (ii) below), a day on which the Relevant Market for the Ordinary Shares is open for business and the Share Price can be determined in accordance with clauses (i) to (iv) of the definition of such term, or (if at the relevant time of determination there is no Relevant Market for the Ordinary Shares) a Business Day; or
- (ii) for purposes of the determination of any Security Price, a day on which the Relevant Market for any other securities, rights or other assets is open for business and Security Prices can be determined in accordance with clauses (i) to (iii) of the definition of such term.

"**United States**" means the United States of America (including the States thereof and the District of Columbia) and its possessions (including Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, Wake Island and Northern Mariana Islands).

"**WpÜG**" means the German Securities Acquisition and Take-Over Act (*Wertpapiererwerbs- und Übernahmegesetz*), as amended from time to time.

- (b) *Definitions relating to conversion.*

"**Bond Price Determination Date**" has the meaning set out in § 8(e).

"**Bond Price Unavailability Date**" has the meaning set out in § 8(e).

"**Cash Conversion Amount**" has the meaning set out in § 8(c)(ii).

"**Cash Settlement Date**" has the meaning set out in § 8(c)(i)(B).

"**CoCo Conversion Period**" means, in respect of each Bond, any of the following periods:

- (i) if the Bonds are called by the Issuer for redemption in accordance with § 5(b) or § 5(c), the period from and including the date on which the call notice pursuant to § 5(b) or § 5(c) is published to and including the 45th Business Day prior to the Redemption Date;
- (ii) if any Event of Default in accordance with § 12(a) occurs, the period from and including the date on which the Event of Default occurs to but excluding the earlier of (x) the date the Bondholder has declared the termination of the relevant Bond in accordance with § 12(c) and (y) the date on which such Event of Default shall have been cured or waived;
- (iii) if an Acquisition of Control occurs, the period from and including the date on which the Issuer gives notice in accordance with § 11(a)(i) of an Acquisition of Control to 4:00 p.m. (Frankfurt time) on the Control Record Date at the latest;
- (iv) if a Take-over Bid is published, the period from and including the date of the notice of the Take-over Bid in accordance with § 11(b)(i) to 4:00 p.m. (Frankfurt time) on the last day of the Conditional Conversion Notice Period at the latest;
- (v) if the Issuer announces a distribution, allotment or grant to its shareholders of any securities, rights or other assets (including cash amounts), and if the Fair Market Value on the CoCo Reference Date of such securities, rights or other assets distributed, allotted or granted per

Share, as determined by the Calculation Agent, is greater than 25 per cent. of the arithmetic average of the Share Prices on each Trading Day during the period of 20 consecutive Trading Days ending on and including the last Trading Day prior to the CoCo Reference Date (or the Adjusted FMV Date, if applicable), the period:

(A) from and including the Business Day immediately following the later of the following days:

(I) the CoCo Reference Date; and

(II) the date on which the Fair Market Value can be determined,

(B) to and including the last Business Day before the later of the following days:

(I) the Ex-Date of such distribution, allotment or grant; and

(II) the 10th Business Day following the date determined to be applicable pursuant to clause (A);

(vi) if at any time the Share Price on each of not less than 20 consecutive Trading Days during an observation period of 30 consecutive Trading Days ending on (and including) the Trading Day immediately preceding the final Trading Day of the immediately preceding Quarter exceeds 130 per cent. of the applicable Conversion Price on each such Trading Day (as verified by the Calculation Agent no later than on the second Business Day following the relevant Conversion Date), the period from and including the first Business Day of the immediately following Quarter to and including the last Business Day of such Quarter;

(vii) if a Delisting Event occurs, the Delisting Event Period; or

(viii) if a Parity Event or an IA Parity Event has (or is deemed to have) occurred, the period of 10 Business Days commencing on and including the first Business Day following the relevant Investor Notification Date.

Neither the Issuer nor the Calculation Agent shall be under any duty to monitor the occurrence of a CoCo Conversion Period. In addition, neither the Issuer nor the Calculation Agent shall be under any duty to notify (other than where specifically provided otherwise in § 8(e) below) Bondholders of the occurrence of a CoCo Conversion Period.

Whether a Parity Event or an IA Parity Event has (or is deemed to have) occurred will be determined in accordance with § 8(e).

"**Closing Parity Value**" has the meaning set out in § 8(e).

"**CoCo Reference Date**" means the date on which the Issuer for the first time publicly announces the terms of the distribution, allotment or grant to its shareholders of any securities, rights or other assets..

"**Conversion Date**" has the meaning set out in § 8(b)(iv).

"**Conversion Notice**" has the meaning set out in § 8(b)(i).

"**Conversion Period**" means

(i) any CoCo Conversion Period commencing during the period from and including 27 January 2021 to but excluding 17 June 2027; and

- (ii) the period from and including 17 June 2027 to and including the earlier of the following days:
- (x) the 45th Business Day prior to the Maturity Date; or
 - (y) if the Bonds are redeemed by the Issuer in accordance with § 5(b) or § 5(c), the 45th Business Day prior to the Redemption Date.

"Conversion Price" means initially US\$ 80.7218, subject to adjustment from time to time in accordance with these Terms and Conditions.

"Conversion Ratio" per Bond on any day is equal to the Principal Amount divided by the Conversion Price in effect on such day.

"Conversion Right" has the meaning set out in § 8(a)(i).

"Daily Cash Conversion Amount" has the meaning set out in § 8(c)(ii).

"Daily Cash Conversion Value" or **"DCV"** has the meaning set out in § 8(c)(ii).

"Daily Net Shares" has the meaning set out in § 8(c)(iii).

"IA Parity Event" has the meaning set out in § 8(e).

"Investor Notice Date" has the meaning set out in § 8(e).

"Investor Notice" as the meaning set out in § 8(e).

"Issuer Notice" has the meaning set out in § 8(e)(ii).

"Issuer Notification Date" has the meaning set out in § 8(e).

"Leading Institution" has the meaning set out in § 8(e).

"Mid-Market Price" has the meaning set out in § 8(e).

"Notification Date" has the meaning set out in § 8(e).

"Parity Event" has the meaning set out in § 8(e).

"Quarter" means the three calendar months ended 31 March, 30 June, 30 September and 31 December in each year, commencing with the three months ending 31 March 2021.

"Quote for the Bonds" has the meaning set out in § 8(e).

"Reference Period" has the meaning set out in § 8(e).

"Settlement Date" means, in respect of any exercise of Conversion Rights, the date on which the Issuer delivers the relevant Settlement Shares in accordance with these Terms and Conditions (or, where no such Settlement Shares are to be delivered in respect of such exercise of Conversion Rights, (i) the first day following the relevant Calculation Period or (ii) where the relevant Conversion Date is pursuant to clause (C) of the definition of that term, such Conversion Date).

"Settlement Disruption Event" has the meaning set out in § 9(c).

"Settlement Shares" has the meaning set out in § 9(a).

"Scheduled Settlement Date" means

- (x) in the case of § 11(b)(ii), the fifth Business Day following the occurrence of the Acceptance Event;

(y) otherwise the 15th Business Day following the end of the relevant Calculation Period.

(c) *Definitions relating to Adjustment of the Conversion Price.*

"**Adjusted FMV Date**" has the meaning set out in § 10(m).

"**Adjustment Date**" has the meaning set out in § 10(j).

"**Average Market Price**" has the meaning set out in § 10(m).

"**Cash Dividend**" has the meaning set out in § 10(m).

"**Ex-Date**" has the meaning set out in § 10(m).

"**Fair Market Value**" has the meaning set out in § 10(m).

"**FMV Date**" has the meaning set out in § 10(m).

"**Number of Trading Days**" means, in respect of any Calculation Period, the actual number of Trading Days comprised in such Calculation Period as determined by the Calculation Agent in accordance with the definition of that term.

"**Other Securities**" has the meaning set out in § 10(c).

"**Record Date**" has the meaning set out in § 10(m).

"**Relevant FX Rate**" has the meaning set out in § 10(m).

"**Scrip Determination Date**" has the meaning set out in § 10(m).

"**Scrip Dividend**" has the meaning set out in § 10(m).

"**Security Price**" has the meaning set out in § 10(m).

"**Spin-off Shares**" has the meaning set out in § 10(m).

(e) *Definitions relating to Acquisition of Control, Take-over Bid.*

"**Acceptance Event Cash Conversion Amount**" has the meaning set out in § 11(d)(ii).

"**Acceptance Event Cash Conversion Amount**" has the meaning set out in § 11(d)(ii).

"**Acceptance Event**" has the meaning set out in § 11(e).

"**Acceptance Record Date**" has the meaning set out in § 11(e).

"**Acquisition of Control**" has the meaning set out in § 11(e).

"**Bidder**" has the meaning set out in § 11(e).

"**Conditional Conversion Notice Period**" has the meaning set out in § 11(e).

"**Conditional Conversion Notice**" has the meaning set out in § 11(b)(ii)(A).

"**Control Record Date**" has the meaning set out in § 11(e).

"**Control**" has the meaning set out in § 11(e).

"**Initial Acceptance Period**" has the meaning set out in § 11(e).

"**Mandatory Offer**" has the meaning set out in § 11(e).

"**Offer Price**" has the meaning set out in § 11(e).

"Person" means any individual, corporation, partnership, joint venture, association, joint-stock company, trust, unincorporated organization, government or any agency, instrumentality or political subdivision thereof, or any other entity.

"Take-over Bid" has the meaning set out in § 11(e).

§ 2 Form and Denomination

- (a) The issue by the Issuer of convertible bonds in the aggregate principal amount of

US\$ 500,000,000

(in words: US dollars five hundred million)

is divided into bonds in bearer form with a principal amount of US\$ 200,000 (the "**Principal Amount**") each, which rank *pari passu* among themselves (the "**Bonds**" and each a "**Bond**").

- (b) The Bonds are represented by a global bond (the "**Global Bond**"). The Global Bond will be signed manually by two authorised signatories of the Issuer and will be authenticated by or on behalf of the Principal Paying Agent.

Definitive bond certificates will not be issued. The Bondholders will have no right to request physical delivery of the Global Bond or to require the issue of definitive bond certificates.

The Global Bond will be deposited with Clearstream Frankfurt, will be held by Clearstream Frankfurt and may not be transferred by Clearstream Frankfurt until the Issuer has satisfied and discharged all its obligations under the Bonds. The Issuer grants Clearstream Frankfurt a permanent, irrevocable and absolute possession right in the Global Bond. Copies of the Global Bond are available for each Bondholder at the Principal Paying Agent, so long as no such copy is itself an enforceable bearer instrument.

- (c) The Bondholders will receive proportional co-ownership interests or rights in the Global Bond, which are transferable in accordance with applicable law and the rules and regulations of the Clearing System.

§ 3 Status of the Bonds; Negative Pledge

- (a) *Status of the Bonds.*

The Bonds constitute unsubordinated and unsecured obligations of the Issuer ranking *pari passu* among themselves and, in the event of the dissolution, liquidation or insolvency of the Issuer or any proceeding to avoid insolvency of the Issuer, *pari passu* with all other present and future unsubordinated and unsecured obligations of the Issuer, save for such obligations which may be preferred by applicable law.

- (b) *Negative Pledge of the Issuer.*

So long as any amounts remain outstanding under the Bonds, but only up to the time all amounts payable to Bondholders under the Bonds in accordance with these Terms and Conditions have been placed at the disposal of the Clearing System, the Issuer undertakes and will procure (to the extent legally possible and permissible) that none of the Issuer and any Material Subsidiary will create or permit to subsist any mortgage, pledge, lien, charge or security interest *in rem* (each a "**Security Interest**") upon, or with respect to, any present or future assets or revenues of the Issuer or any Material Subsidiary, for the purpose of securing any (i) Capital Markets Indebtedness or (ii) guarantee of any Capital Markets Indebtedness, unless in such case the Issuer or any Material Subsidiary, as the case may be, shall simultaneously with, or prior to, the creation of such Security Interest, take any and all action necessary to procure that all amounts payable by it in respect of the

Bonds are secured equally and rateably with the Capital Markets Indebtedness or the guarantee for any Capital Markets Indebtedness secured by such Security Interest or benefit from an equivalent other Security Interest which will be approved by an Independent Expert as being equivalent security. The undertaking pursuant to sentence 1 of this § 3(b) will not apply to a Security Interest which (i) is mandatory according to applicable laws or (ii) is required as a prerequisite for governmental approvals.

Any Security Interest which is to be provided in accordance with this § 3(b) may also be provided to a person acting as trustee for the Bondholders.

§ 4 Interest

The Bonds do not bear periodic interest.

§ 5 Maturity, Redemption and Purchase

- (a) To the extent the Bonds have not previously been redeemed, converted, or repurchased and cancelled they will be redeemed at their Principal Amount on the Maturity Date.
- (b) The Issuer may, on giving not less than 55 and no more than 70 Business Days' prior notice to the Bondholders in accordance with § 14, redeem all, but not some only, of the outstanding Bonds with effect on the Redemption Date (which shall be no earlier than 17 December 2025 and no later than on the last day of the Conversion Period in accordance with clause (ii)(x) of the definition of the term "Conversion Period"). However, such notice may only be given if the Share Price on each of not less than 20 Trading Days during an observation period of 30 consecutive Trading Days is equal to or exceeds 130 per cent. of the Conversion Price in effect on each such Trading Day. In the case such notice is given, the Issuer will redeem the Bonds at their Principal Amount on the Redemption Date.

The Issuer must publish the notice of early redemption no later than on the fifth Business Day after the last day of the relevant 30 consecutive Trading Days' observation period.

The notice of early redemption is irrevocable and must specify (i) the Redemption Date, (ii) the last day on which Conversion Rights may be exercised by Bondholders in accordance with § 8(a) in connection with clause (ii)(y) of the definition of the term "Conversion Period" and (iii) the facts which establish the right of the Issuer to redeem the Bonds.

- (c) The Issuer may, on giving not less than 55 and no more than 70 Business Days' prior notice to the Bondholders in accordance with § 14, redeem all, but not some only, of the outstanding Bonds with effect on the Redemption Date (which shall fall no later than on the last day of the Conversion Period in accordance with clause (ii)(x) of the definition of the term "Conversion Period") if at any time the aggregate principal amount of the Bonds outstanding and held by persons other than the Issuer and its Subsidiaries has fallen to 20 per cent. or less of the aggregate principal amount of the Bonds originally issued (including any Bonds additionally issued in accordance with § 15). In the event such notice is given, the Issuer will redeem the Bonds at their Principal Amount on the Redemption Date.

The notice of early redemption is irrevocable and must specify (i) the Redemption Date, (ii) the last day on which Conversion Rights may be exercised by Bondholders in accordance with § 8(a) in connection with clause (ii)(y) of the definition of the term "Conversion Period" and (iii) the facts which establish the right of the Issuer to redeem the Bonds.

- (d) Any Bondholder may, at its option, by submitting a redemption notice in accordance with this § 5(d) demand from the Issuer redemption of any or all of its Bonds for which the Conversion Right was not exercised and which were not declared due for early redemption by the Issuer in accordance with § 5(b) or § 5(c), at their Principal Amount on the Put Effective Date.

"Put Effective Date" means 17 December 2025.

Any redemption notice will be made by means of a notice in text form to be delivered by the Bondholder through the Custodian to the Principal Paying Agent. Redemption notices will be irrevocable. The redemption notice must be received by the Principal Paying Agent no less than 30 calendar days prior to the Put Effective Date.

The exercise of the put right in accordance with this § 5(d) further requires that the Bonds to be redeemed will be delivered to the Principal Paying Agent by transferring the Bonds to the Clearstream Frankfurt account of the Principal Paying Agent (book-entry transfer).

(e) *Delisting Event.*

(i) If a Delisting Event occurs, the Issuer will, as soon as practicable after becoming aware thereof, give notice in accordance with § 14 of the Delisting Event (a "**Delisting Event Notice**"). The Delisting Event Notice shall contain a statement informing Bondholders of their entitlement to exercise their Conversion Rights as provided in these Terms and Conditions and their entitlement to exercise their rights to require redemption of their Bonds pursuant to § 5(e)(ii).

The Delisting Event Notice must specify:

- (A) all information concerning the Delisting Event;
- (B) the Conversion Price immediately prior to the occurrence of the Delisting Event;
- (C) the Share Price as at the most recent Trading Day prior to the publication of the Delisting Event Notice;
- (D) the Delisting Event Period; and
- (E) the Delisting Put Effective Date.

(ii) If a Delisting Event occurs, any Bondholder may, at its option, by submitting a redemption notice in accordance with this § 5(e)(ii) demand from the Issuer redemption of any or all of its Bonds for which the Conversion Right was not exercised and which were not declared due for early redemption by the Issuer in accordance with § 5(b) or § 5(c), at their Principal Amount on the Delisting Put Effective Date.

Any redemption notice will be made by means of a notice in text form to be delivered by the Bondholder through the Custodian to the Principal Paying Agent. Redemption notices will be irrevocable. The redemption notice must be received by the Principal Paying Agent no less than 10 calendar days prior to the Delisting Put Effective Date.

The exercise of the put right in accordance with this § 5(e) further requires that the Bonds to be redeemed will be delivered to the Principal Paying Agent by transferring the Bonds to the Clearstream Frankfurt account of the Principal Paying Agent (book-entry transfer).

(iii) Definitions

A "**Delisting Event**" shall occur if:

- (A) the Ordinary Shares at any time are not admitted to listing and trading on a Relevant Market which is the New York Stock Exchange, the Nasdaq Global Select Market or the Nasdaq Global Market (or any of their respective successors) or an internationally recognised, regularly operating and regulated stock exchange; or

(B) if any announcement is made by the Issuer or by the Relevant Market for the Ordinary Shares that the Ordinary Shares will cease to be admitted to trading and listing on such Relevant Market, unless in any such case the Ordinary Shares are already, or such announcement confirms that the Ordinary Shares are to be immediately upon such cessation, admitted to trading and/or listing on an internationally recognised, regularly operating and regulated stock exchange which is expected to be Relevant Market for the Ordinary Shares upon such cessation.

"Delisting Event Period" means the period from and including the date on which the Delisting Event occurred to and including the 60th calendar day following the date on which the Delisting Event occurred (or the following Business Day if such day is not a Business Day).

"Delisting Put Effective Date" means the 10th Business Day after the expiry of the Delisting Event Period.

- (f) The Issuer and any of its affiliates may at any time purchase Bonds in the open market or otherwise. Any Bonds purchased by the Issuer or any of its affiliates may be cancelled or held and resold.

§ 6 Payments

- (a) All payments on the Bonds will be made in US dollars to the Principal Paying Agent for transfer to the Clearing System or to its order for credit to the accounts of the relevant account holders of the Clearing System outside the United States. Payments on the Bonds made to the Clearing System or to its order will discharge the liability of the Issuer under the Bonds to the extent of the sums so paid.
- (b) Subject to (i) applicable fiscal and other laws and regulations, and (ii) any withholding or deduction required pursuant to an agreement described in Section 1471(b) of the US Internal Revenue Code of 1986 (the "Code") or otherwise imposed pursuant to Sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or any law implementing an intergovernmental approach thereto payments of amounts due in respect of the Bonds shall be made in US dollars.
- (c) If the due date for payment of any amount in respect of the Bonds is not a Business Day, then the Bondholder will not be entitled to payment until the next day which is a Business Day. In such case the Bondholders will not be entitled to interest or to any other compensation on account of such delay.

§ 7 Taxes

All payments in respect of the Bonds will be made without deduction of taxes or other duties, unless such deduction is required by law.

The Issuer will not be obliged to pay any additional amounts of principal and/or interest as a result of such deduction.

§ 8 Conversion

- (a) *Conversion Right.*
- (i) The Issuer grants to each Bondholder the right (the "**Conversion Right**") to convert each Bond in whole, but not in part, at the Conversion Price in accordance with this § 8 on any Business Day during each Conversion Period.
- (ii) The Conversion Right may not be exercised by a Bondholder if such Bondholder has terminated its Bonds in accordance with § 5(d), § 5(e), § 11(a)(iii) or § 12.

(b) *Exercise of Conversion Right.*

- (i) To exercise the Conversion Right, the Bondholder must deliver at its own expense during the Conversion Period to the Principal Conversion Agent via its Custodian and the Clearing System a duly completed and executed exercise notice (the "**Conversion Notice**") (which may be by fax) using a form (from time to time current) obtainable from the Principal Conversion Agent which must be received by the Principal Conversion Agent by 4:00 p.m. (Frankfurt time) on the last day of the Conversion Period at the latest. The Conversion Notice is irrevocable and will, among other things:
 - (A) state the name, date of birth and address (natural persons) or name, domicile and address (legal persons) as well as the fax number and email address of the exercising Bondholder;
 - (B) specify the aggregate principal amount of Bonds with respect to which the Conversion Right will be exercised;
 - (C) designate the securities account of the Bondholder or its nominee at a participant in, or account holder of, the Clearing System to which the Settlement Shares are to be delivered;
 - (D) give directions to the Principal Conversion Agent for the payment of any cash amount which the Bondholder is entitled to receive in accordance with these Terms and Conditions and which are to be paid by way of transfer to a US dollar denominated cash account;
 - (E) in the case of a Take-over Bid and a Conditional Conversion Notice designate the securities account of the Bondholder or its nominee at a participant in, or account holder of, the Clearing System to which the Bonds delivered for conversion are to be redelivered if no Acceptance Event occurs; and
 - (F) contain the certifications and undertakings set out in the form of the Conversion Notice relating to certain legal restrictions of the ownership of the Bonds and/or the Settlement Shares. If the Bondholder fails to deliver the above mentioned certifications and undertakings, the Issuer will not deliver any Settlement Shares or pay any amount of cash in respect of such a Conversion Notice.
- (ii) The exercise of the Conversion Right further requires that the Bonds to be converted will be delivered to the Principal Conversion Agent by transferring the Bonds to the account of the Principal Conversion Agent (book entry transfer or assignment) by 4:00 p.m. (Frankfurt time) on the last day of the Conversion Period at the latest.
- (iii) Upon fulfilment of all requirements specified in § 8(b)(i) and (ii) for the exercise of the Conversion Right, the Principal Conversion Agent will verify whether the aggregate principal amount of Bonds delivered to the Principal Conversion Agent exceeds or falls short of the aggregate principal amount of Bonds specified in the Conversion Notice. If the aggregate principal amount of Bonds specified in the Conversion Notice exceeds or falls short of the aggregate principal amount of Bonds in fact delivered, the Principal Conversion Agent will determine the Aggregate Conversion Principal Amount on the basis of the lower of the following amounts:
 - (A) the aggregate principal amount of Bonds set forth in the Conversion Notice; or
 - (B) the aggregate principal amount of Bonds in fact delivered for conversion.

Any Bonds delivered in excess of the number of Bonds specified in the Conversion Notice will be redelivered to the Bondholder at its cost. The Principal Conversion Agent will act in accordance with the regulations of the Clearing System.

- (iv) The Conversion Right will be validly exercised on the Conversion Date. The term "**Conversion Date**" has the following meaning:

- (A) Subject to clauses (B), (C), (D) and (E) below, "**Conversion Date**" means the first Business Day on which all requirements for the exercise of the Conversion Right specified in § 8(b)(i) and (ii) have been fulfilled.
- (B) If an Acquisition of Control occurs and a Bondholder validly exercises the Conversion Right in respect of any Bond in accordance with § 8(a) during the Conversion Period and by 4:00 p.m. (Frankfurt time) on the Control Record Date at the latest, "**Conversion Date**" means the first Business Day on which all requirements for the exercise of the Conversion Right specified in § 8(b)(i) and (ii) have been fulfilled.
- (C) If (I) a Bondholder, by 4:00 p.m. (Frankfurt time) on the last day of the Conditional Conversion Notice Period at the latest, (x) has given a Conditional Conversion Notice in accordance with § 11(b)(ii)(A) and (y) has delivered to the Principal Conversion Agent the Bonds to be converted in accordance with § 11(b)(ii)(B), and (II) the Conditional Conversion Notice has become unconditional in accordance with § 11(b)(ii)(C), "**Conversion Date**" means the first Business Day following the date on which the Acceptance Event has occurred.
- (D) Any Conversion Notice received by the Principal Conversion Agent within the last 30 days of the Conversion Period in accordance with clause (ii)(x) of the definition of the term "Conversion Period" will be treated as if it were received on the last day of the Conversion Period. In such case "**Conversion Date**" means the last day of the Conversion Period, provided that the relevant Bondholder has fulfilled all requirements for the exercise of the Conversion Right specified in § 8(b)(i) and (ii) before the end of the Conversion Period.
- (E) Any Conversion Notice received by the Principal Conversion Agent during the period from and including the date on which the Issuer has published the redemption notice in accordance with § 5(b) or § 5(c) to and including the last day of the Conversion Period in accordance with clause (ii)(y) of the definition of the term "Conversion Period" will be treated as if it were received on the last day of the Conversion Period. In such case "**Conversion Date**" means the last day of the Conversion Period, provided that the relevant Bondholder has fulfilled all requirements for the exercise of the Conversion Right specified in § 8(b)(i) and (ii) before the end of the Conversion Period.

(c) *Net Share Settlement.*

- (i) The Issuer, upon any valid exercise of the Conversion Rights in respect of any Bond, will, in respect of each such Bond,
- (A) (if the Net Shares are not equal to zero) convert a portion of such Principal Amount as is equal to the number of Net Shares multiplied with the Conversion Price in effect on the relevant Conversion Date into such number of Settlement Shares as is equal to the number of Net Shares, and issue and/or deliver the number of Net Shares in accordance with § 8(d)(i) no later than on the Scheduled Settlement Date (subject to § 9(c)); and

- (B) pay to the relevant Bondholder the Cash Conversion Amount by transfer to the cash account specified in the relevant Conversion Notice no later than the Cash Settlement Date.

"Cash Settlement Date" means the seventh Business Day following the end of the relevant Calculation Period.

- (ii) On the first Business Day following the end of the Calculation Period the Calculation Agent will determine the Cash Conversion Amount in accordance with this § 8(c)(ii).

"Cash Conversion Amount" means, in respect of any exercise of Conversion Rights, the sum (rounded to the nearest US\$ 0.01, with US\$ 0.005 being rounded upwards) of the Daily Cash Conversion Amounts as determined by the Calculation Agent in respect of each Trading Day in the relevant Calculation Period.

"Daily Cash Conversion Amount" means, in respect of a Trading Day comprised in the relevant Calculation Period, the lower of the following amounts:

- (A) an amount equal to the Principal Amount divided by the Number of Trading Days in respect of such Calculation Period; and
- (B) the Daily Conversion Value in respect of such Trading Day,
all as determined by the Calculation Agent.

"Daily Conversion Value" or **"DCV"** means, in respect of any Trading Day comprised in the relevant Calculation Period, the amount determined by the Calculation Agent in accordance with the following formula:

$$DCV = \frac{CR \times VWAP}{NTD}$$

Where:

"CR" means the Conversion Ratio in effect on the relevant Conversion Date (subject to adjustment to but excluding the relevant Settlement Date in accordance with § 10).

"NTD" means the Number of Trading Days in respect of the relevant Calculation Period.

"VWAP" means the Share Price on such Trading Day, provided that:

- (A) if on any Trading Day during the relevant Calculation Period the Ordinary Share is quoted "ex dividend" or "ex subscription right" or "ex" any other distribution, allotment or grant of securities, rights or other assets the Record Date of which falls on or after the Settlement Date, the Share Price on such Trading Day shall be increased by the Fair Market Value of such distribution or other entitlement per Ordinary Share on the first Trading Day on which the Ordinary Share is traded "ex dividend" or "ex subscription right" or "ex" any other distribution, allotment or grant of securities, rights or other assets, as determined by the Calculation Agent; and
- (B) if on any Trading Day during the relevant Calculation Period the Ordinary Share is quoted "cum dividend" or "cum subscription right" or "cum" any other distribution, allotment or grant of securities, rights or other assets (the Record Date of which falls prior to the relevant Settlement Date) in respect of which an adjustment to the Conversion Price is required to be made in accordance with § 10 and the Adjustment Date (as defined in § 10(j)) in respect thereof falls prior to the relevant Settlement Date,

the Share Price on such Trading Day shall be multiplied by the adjustment factor subsequently determined to apply to the Conversion Price in accordance with § 10 in respect thereof, as determined by the Calculation Agent.

- (iii) On the first Business Day following the end of each Calculation Period the Calculation Agent will determine the Net Shares (if any) in accordance with this § 8(c)(iii).

"**Net Shares**" means the sum (rounded to the nearest whole multiple of 0.00001, with 0.000005 rounded upwards) of the Daily Net Shares determined by the Calculation Agent in respect of each Trading Day in the Calculation Period.

"**Daily Net Shares**" means,

- (A) in respect of any Trading Day in respect of which the Daily Conversion Value is equal to or lower than the Principal Amount divided by the Number of Trading Days in respect of the relevant Calculation Period, zero; and
- (B) in respect of any Trading Day in respect of which the Daily Conversion Value exceeds the Principal Amount divided by the Number of Trading Days in respect of the relevant Calculation Period, the number of Settlement Shares determined by the Calculation Agent in accordance with the following formula:

$$\frac{A}{VWAP}$$

Where:

"**A**" means the (x) the Daily Conversion Value on such Trading Day minus (y) the result of the division of the Principal Amount by the Number of Trading Days in respect of the relevant Calculation Period.

"**VWAP**" shall have the meaning given to this term in the definition of "Daily Conversion Value" or "DCV".

- (iv) If the Issuer gives notice in accordance with § 11(b)(i) of a Take-over Bid and the Conversion Right is exercised in accordance with § 11(b), notwithstanding anything to the contrary in these Terms and Conditions, the provisions in § 11(b)-(e) shall apply.

(d) *Delivery of Settlement Shares.*

- (i) If the Net Shares in respect of any exercise of the Conversion Right are not equal to zero, the Issuer will, upon any such exercise, issue and/or deliver such number of Settlement Shares as is equal to the aggregate number of Net Shares in respect of the Aggregate Conversion Principal Amount so converted, rounded down to the nearest full Settlement Share. Any remaining fraction of a Settlement Share will not be delivered and will not be compensated in cash. Subject to § 9(c), the Settlement Shares to be delivered will be transferred to the securities account of the Bondholder specified in the Conversion Notice no later than on the Scheduled Settlement Date. Until transfer of the Settlement Shares has been made no claims arising from the Settlement Shares will exist. In relation to delivery of the Settlement Shares § 9 will apply.
- (ii) The Issuer will only be required to deliver the Settlement Shares and to pay the Cash Conversion Amount in accordance with § 8(c)(i)(A) if the Bondholder has paid all taxes or other duties and costs, if any, which may arise in connection with the exercise of the Conversion Right or the delivery of the Settlement Shares or the payment in accordance with § 8(c)(i)(A).

(e) *Determination of the occurrence of a Parity Event or IA Parity Event*

Whether a Parity Event or an IA Parity Event has (or is deemed to have) occurred will be determined as follows:

(i) **Investor Notice**

If a Bondholder (the "**Notifying Bondholder**") has delivered to the Paying Agent a valid Investor Notice, the Issuer will be required to instruct the Calculation Agent no later than the second Trading Day following the Investor Notice Date (as defined below) to verify whether a Parity Event or an IA Parity Event, as the case may be, has occurred.

In order to be validly given the Investor Notice must be:

- (A) received by the Principal Paying Agent no later than at 4:00 p.m. (Frankfurt time) on the fifth Business Day after the last Trading Day of the relevant Reference Period;
- (B) delivered by the Notifying Bondholder together with reasonable evidence that a Parity Event or an IA Parity Event has occurred; and
- (C) delivered by the Notifying Bondholder together with evidence that the Notifying Bondholder at the time of such notice is a holder of the relevant Bonds by means of a certificate of its Custodian or in any other appropriate manner.

(ii) **Verification by the Calculation Agent, Issuer notification**

Upon instruction by the Issuer the Calculation Agent will verify whether a Parity Event or an IA Parity Event, as the case may be, has occurred. If in doing so the Calculation Agent determines

- (A) that the Parity Event or the IA Parity Event, as the case may be, has occurred in respect of the relevant Reference Period, the Issuer shall publish a notice (an "**Issuer Notice**") to the Bondholders in accordance with § 14 specifying the relevant CoCo Conversion Period as soon as practicable following the relevant determination by the Calculation Agent and in any case no later than on the relevant Notification Date; or
- (B) that no Parity Event or IA Parity Event has occurred in the relevant Reference Period, the Issuer shall notify the Notifying Bondholder thereof as soon as practicable following the relevant determination by the Calculation Agent and in any case no later than on the relevant Issuer Notification Date.

Any determination by the Calculation Agent (and, as the case may be, by an Independent Expert pursuant to this § 8(e)) will, in the absence of manifest error, be conclusive in all respects and binding upon the Issuer and all Bondholders.

(iii) If, upon receipt of any valid Investor Notice, the Issuer fails to duly notify, by no later than the relevant Notification Date, (x) the Bondholders in accordance with § 8(e)(ii)(A) of the occurrence of the Parity Event or the IA Parity Event, as the case may be, or (y) the Notifying Bondholder in accordance with § 8(e)(ii)(B) that such alleged Parity Event or IA Parity Event, as the case may be, has not occurred, then a Parity Event (and the Notification Date in relation thereto) will be deemed to have occurred up to and including any Trading Day on which the Issuer makes such notification, and the Bondholders may exercise their Conversion Right during the relevant CoCo Conversion Period as set forth in clause (viii) of the definition of the term "CoCo Conversion Period".

In this § 8(e):

"Bond Price Determination Date" means the fifth Trading Day following the relevant Bond Price Unavailability Date.

A **"Bond Price Unavailability Date"** shall have occurred in respect of any Reference Period, as determined by the Calculation Agent, if no Quote for the Bonds is available on at least six Trading Days comprised in such Reference Period, and in any such case the Bond Price Unavailability Date shall be such sixth Trading Day.

"Closing Parity Value" means, in respect of any Trading Day, the amount determined in good faith by the Calculation Agent and calculated as follows:

$$CPV = N \times CIP$$

Where:

CPV = the Closing Parity Value;

CIP = the Closing Price on such Trading Day, provided that if on such Trading Day the Ordinary Share is quoted "ex dividend" or "ex subscription right" or "ex" any other distribution, allotment or grant of securities, rights or other assets in respect of which an adjustment to the Conversion Price is required to be made in accordance with § 10 and such Trading Day falls prior to the relevant Adjustment Date, the Share Price on such Trading Day shall be divided by the adjustment factor subsequently determined to apply to the Conversion Price in accordance with § 10 in respect thereof, as determined by the Calculation Agent, and provided further that if such adjustment cannot be determined in accordance with these Terms and Conditions prior to the relevant Notification Date, the Closing Price shall instead be adjusted in such manner as is determined to be appropriate by an Independent Expert; and

N = the Principal Amount divided by the Conversion Price in effect on such Trading Day.

An **"IA Parity Event"** shall occur in respect of any Reference Period if, as determined by the Calculation Agent, (i) a Bond Price Unavailability Date has occurred in respect of such Reference Period, and (ii) the Quote for the Bonds on the Bond Price Determination Date (and if no such Quotes for the Bonds is available, the fair mid-market value as at as at or around 5:00 p.m. (Frankfurt time) on the Bond Price Determination Date per Bond (as determined by an Independent Expert)) is less than 98 per cent. of the Closing Parity Value on such Bond Price Determination Date.

"Investor Notice" means a notice by a Notifying Bondholder to the Paying Agent in text form specifying that in its opinion either a Parity Event or an IA Parity Event has occurred, together with reasonable supporting evidence.

"Investor Notice Date" means the date on which the Principal Paying Agent has received from a Notifying Bondholder a valid Investor Notice.

"Issuer Notification Date" means the relevant Notification Date, or, if earlier, the date on which the Issuer Notice (if any) is published pursuant to § 8(e)(ii)(A).

"Leading Institution" means any bank or financial institution which is a leading, internationally recognised market maker in trading exchangeable and/or convertible bonds.

"Mid-Market Price" means, in respect of any day, the average of the prices per Principal Amount of the Bonds quoted by a Leading Institution for (x) the purchase by such Leading Institution (bid price), and (y) the purchase from such Leading Institution (ask price), in each case in respect of the Bonds as at or around 5:00 p.m. (Frankfurt time) on such day.

"Notification Date" means the second Business Day following the fifth Trading Day following the end of the relevant Reference Period.

A **"Parity Event"** shall occur in relation to any Reference Period if, as determined by the Calculation Agent, (i) the Quote for the Bonds is available in respect of at least five Trading Days comprised in such Reference Period, and (ii) on each Trading Day comprised in such Reference Period in respect of which the Quote for the Bonds is available, such Quote for the Bonds is less than 98 per cent. of the Closing Parity Value in respect of such Trading Day.

"Quote for the Bonds" means, in respect of any Trading Day, the arithmetic average (as determined by an Independent Expert) of the Mid-Market Prices in respect of such Trading Day obtained by such Independent Expert from three Leading Institutions as such Independent Expert shall consider appropriate, or, if only two Mid-Market Prices may be obtained from such three Leading Institutions, the arithmetic average of such two Mid-Market Prices so obtained or, if only one Mid-Market Price can be obtained from such three Leading Institutions, such Mid-Market Price, provided that where no Mid-Market Price can be determined pursuant to the foregoing in respect of such Trading Day, it shall be deemed that no Quote for the Bonds is available in respect of such Trading Day.

"Reference Period" means a period of 10 consecutive Trading Days commencing on the second Trading Day following the Investor Notice Date.

§ 9 **Procurement of Settlement Shares, Settlement Disruption**

- (a) The Ordinary Shares to be issued or delivered, as the case may be, upon execution of the conversion (the **"Settlement Shares"**) will, at the sole discretion of the Issuer
 - (i) either be newly issued by the Issuer; or
 - (ii) be existing Ordinary Shares, held by the Issuer as treasury shares, of the same class as the new shares to be delivered by or on behalf of the Issuer, provided that such delivery of existing Ordinary Shares can be legally effected and does not impair the rights which the relevant Bondholder would otherwise have.

The Settlement Shares will be credited as fully paid up and free of pre-emption rights accruing to the shareholders of the Issuer on the relevant Settlement Date and will in all respects rank *pari passu* with the fully paid up Shares in issue on the relevant Settlement Date.

- (b) The Issuer will take all necessary steps to procure that the number of Settlement Shares as is equal to the number of Net Shares to be issued or delivered, as the case may be, to the relevant Bondholder(s) on conversion are credited to the Bondholder(s) as soon as possible after the end of the Calculation Period and no later than on the Scheduled Settlement Date. Further, the Issuer will procure that the Settlement Shares so issued or delivered are admitted to listing on the Relevant Market and admitted to trading on the Relevant Market on delivery to the relevant Bondholder(s).

The Issuer will procure delivery of the Settlement Shares through the Principal Conversion Agent.

- (c) If a Settlement Disruption Event occurs and the delivery of any Settlement Shares cannot be effected on or before the relevant Scheduled Settlement Date, then the Issuer is required to deliver the relevant Settlement Shares on the first succeeding Business Day on which delivery of the Settlement Shares can take place through the Clearing System or in any other commercially reasonable manner.

"Settlement Disruption Event" means an event beyond the control of the Issuer as a result of which the Clearing System cannot settle book-entry transfers of such Settlement Shares.

- (d) Under no circumstances will the Issuer be required to pay to a converting Bondholder the value of the Net Shares (or the value of the Acceptance Event Net Shares, as the case may be) in cash or other assets upon a valid exercise of the Conversion Right.

§ 10 Adjustment of the Conversion Price

- (a) *Capital Increase from Conversion of the Capital Reserve or Retained Earnings, Share Split or Combining of Shares and Capital Decrease.*

- (i) If, prior to the relevant Settlement Date, the Issuer increases its share capital by way of conversion of the capital reserve or retained earnings by issuing new Ordinary Shares (other than constituting a Scrip Dividend), the Conversion Price will be adjusted in accordance with the following formula:

$$CP_a = CP \times \frac{N_n}{N_o}$$

Where:

CP_a = the adjusted Conversion Price;

CP = the Conversion Price in effect immediately prior to the Adjustment Date (subject to § 10(h));

N_n = the number of issued Ordinary Shares after the share capital increase; and

N_o = the number of issued Ordinary Shares before the share capital increase.

If the share capital increase by way of conversion of the capital reserve or retained earnings is not effected by issuing new Ordinary Shares but by means of an increase of the nominal amount (*nominale waarde*) per Ordinary Share, the Conversion Price will not be adjusted and will remain unchanged. In this case the relevant Settlement Shares will be delivered with their increased nominal amount per Ordinary Share.

- (ii) If, prior to the relevant Settlement Date, the Issuer:

- (A) increases the number of Ordinary Shares issued by reduction of the nominal amount per Ordinary Share (share split) or reduces the number of issued Ordinary Shares by increasing the nominal amount per share with no change in the share capital (reverse share split); or

- (B) reduces its share capital by combining Ordinary Shares,

the Conversion Price will be adjusted in accordance with § 10(a)(i) to the extent not otherwise provided for in § 10(a)(iii).

- (iii) If, prior to the relevant Settlement Date, the Issuer decreases the share capital of the Issuer by way of a reduction of the nominal amount per Ordinary Share, the Conversion Price will not be adjusted and will remain unchanged. In this case the relevant Settlement Shares will be delivered with their respective new nominal amount per Ordinary Share.

No adjustment of the Conversion Price will be made in case of a capital decrease by cancelling Ordinary Shares held in treasury.

- (b) *Capital Increase against cash contributions with Subscription Rights.* If, prior to the relevant Settlement Date, the Issuer increases its share capital through the issuance of new Ordinary Shares against cash contributions while granting its Shareholders a direct or indirect subscription right (rights

issue) (other than constituting a Scrip Dividend), at consideration receivable per Ordinary Share which is less than 95 per cent. of the Share Price on the date on which the terms of such issue or grant are for the first time publicly announced, the Conversion Price will be adjusted in accordance with the following formula:

$$CP_a = CP \times \left[\frac{N_o}{N_n} \times \left(1 - \frac{I + D}{M} \right) + \frac{I + D}{M} \right]$$

Where:

- CP_a = the adjusted Conversion Price;
- CP = the Conversion Price in effect immediately prior to the Adjustment Date (subject to § 10(h));
- N_n = the number of issued Ordinary Shares after the share capital increase;
- N_o = the number of issued Ordinary Shares before the share capital increase;
- I = the issue price of the new Ordinary Shares (translated (if necessary) into US dollars at the Relevant FX Rate on the Ex-Date);
- D = the dividend disadvantage (not discounted), if any, of the new Ordinary Shares compared to the existing Ordinary Shares on the Record Date of the rights issue, as determined by the Calculation Agent; and
- M = the Average Market Price.

There will be no adjustment of the Conversion Price if CP_a would, by applying the above formula, be greater than CP .

- (c) *Issue of Other Securities with Subscription Rights.* If, prior to the relevant Settlement Date, the Issuer grants to its Shareholders direct or indirect subscription rights in relation to
 - (i) Ordinary Shares held in treasury (other than constituting a Scrip Dividend);
 - (ii) securities with subscription or option or conversion rights or conversion obligations in relation to Ordinary Shares (but excluding the granting of subscription rights in the course of share capital increases in accordance with § 10(b)); or
 - (iii) other debt securities, participation rights or other securities of the Issuer

(the securities listed in (i) through (iii) together, the "**Other Securities**"), the Conversion Price will be adjusted in accordance with the following formula:

$$CP_a = CP \times \frac{M - F}{M}$$

Where:

- CP_a = the adjusted Conversion Price;
- CP = the Conversion Price in effect immediately prior to the Adjustment Date (subject to § 10(h));
- M = the Average Market Price; and
- F = the Fair Market Value of the direct or indirect rights to subscribe for such Other Securities to which a holder of Ordinary Shares is entitled per Ordinary Share on the Ex-Date of such grant,

provided that an adjustment will only be made if $F > 0$.

- (d) *Distributions.* If, prior to the relevant Settlement Date, the Issuer distributes, allots or grants to its Shareholders:

- (i) any assets (not falling under clauses (ii), (iii) or (iv) below) including any dividend in kind but excluding any Cash Dividend and excluding any Spin-off Shares; or
- (ii) any Cash Dividend; or
- (iii) any debt securities, warrants or conversion rights (with the exclusion of the rights mentioned above in § 10(c)); or
- (iv) any put options in the case of a repurchase of Ordinary Shares,

the Conversion Price will be adjusted in accordance with the following formula:

$$CP_a = CP \times \frac{M - F}{M}$$

Where:

CP_a = the adjusted Conversion Price;

CP = the Conversion Price in effect immediately prior to the Adjustment Date (subject to § 10(h));

M = the Average Market Price;

F = the Fair Market Value of such assets, Cash Dividend, debt securities, warrants, conversion rights or put options distributed, allotted or granted per Ordinary Share to which a holder of Ordinary Shares is entitled on the Ex-Date of such distribution, allotment or grant,

provided that an adjustment will only be made if $F > 0$.

Several adjustments in accordance with § 10(d) will be made and calculated independently and separately of each other, even if the relevant resolutions and/or distributions are made on the same day.

- (e) *Merger or Split-up.* If a merger or a split-up of the Issuer as transferor entity occurs prior to the relevant Settlement Date, each Bondholder will be entitled to receive equivalent rights in the transferee entity(ies).

- (f) *Demerger.* If a demerger of the entire business or a part thereof of the Issuer or one or more of its Subsidiaries occurs prior to the relevant Settlement Date, the Conversion Price will be adjusted in accordance with the following formula:

$$CP_a = CP \times \frac{M - F}{M}$$

Where:

CP_a = the adjusted Conversion Price;

CP = the Conversion Price in effect immediately prior to the Adjustment Date (subject to § 10(h));

M = the Average Market Price; and

F = the Fair Market Value of the number of Spin-off Shares to which a holder of Ordinary Shares is entitled per Ordinary Share, on the Ex-Date of the demerger,

provided that an adjustment will only be made if F > 0.

- (g) If a merger of the Issuer as the acquiring entity, or a hive down of one asset or several assets by the Issuer, or an analogous event occurs prior to the relevant Settlement Date, the Conversion Price will remain unchanged.
- (h) If adjustments of the Conversion Price are required under more than one of § 10(a), (b), (c), (d)(i), (d)(ii), (e) and/or (f), or if the calculation of an adjustment under one of these provisions is based on market values which are required to be adjusted under another of these provisions beforehand, then such adjustment will be made:
 - (x) in the case of adjustments with the same Record Date, by applying, first § 10(a)(ii), second § 10(d), third § 10(a)(i), fourth § 10(b), fifth § 10(c), sixth § 10(e) and finally § 10(f), but only to the extent each such provision is applicable in accordance with its terms; and
 - (y) in other cases, by applying the relevant clauses in the sequence in which their Adjustment Dates occur.

If in any of the cases referred to in this § 10(h), the calculation of an adjustment under one of the clauses above is made subsequent to the application of any of the other clause, and if the calculation of the second or any subsequent adjustment refers to the Average Market Price or the Share Price in a period prior to the Ex-Date for a measure requiring adjustment in accordance with the clause which is to be applied first, the Average Market Price or the Share Price for those periods, for purposes of the calculation of the subsequent adjustments, will be multiplied by the factor used for the multiplication of the preceding adjustment. To the extent that a Fair Market Value is to be calculated in consideration of the value of the Ordinary Share during such period, the Calculation Agent or an Independent Expert, as the case may be, will calculate the relevant Fair Market Value, where applicable, on the basis of the value of the Ordinary Share so adjusted.

- (i) If
 - (x) the Issuer determines, or
 - (y) the Principal Paying Agent has received notices from Bondholders holding Bonds in an aggregate principal amount of at least 10 per cent. of the aggregate principal amount of all Bonds then outstanding in which the Bondholders determine

that another adjustment for dilution should be made as a result of one or more events or circumstances not referred to above in § 10(a) to (h) (except for events or circumstances that are specifically excluded from the operation of § 10(a) to (h)), the Issuer will, at its own expense and in consultation with the Calculation Agent, request an Independent Expert to determine as soon as practicable what further adjustment (if any) is fair and reasonable to take account thereof and the Adjustment Date. The Independent Expert will determine such adjustment (if any) which will take effect in accordance with such determination on the Adjustment Date.

No adjustments will be made in relation to the issuance of shares (including Ordinary Shares), stock options or convertible participation rights and/or stock ownership programmes and/or similar programmes for any members of the management board (*bestuur*) (or, in the case of affiliates, their corporate bodies or boards) and/or employees of the Issuer and/or any of its affiliates.

No adjustments shall furthermore be made in relation to the issue of Ordinary Shares or Other Securities for which the subscription right of Shareholders has been indirectly or directly excluded.

- (j) Adjustments in accordance with this § 10 will become effective as of the beginning of the Adjustment Date.

"Adjustment Date" means:

- (i) in the case of an adjustment in accordance with § 10(a), the date on which the relevant event triggering the adjustment becomes effective, as determined by the Calculation Agent;
- (ii) in the case of an adjustment in accordance with § 10(b), § 10(c), § 10(d) or § 10(f), the relevant Ex-Date or, if later, the first date on which such adjustment is capable of being determined;
- (iii) in the case of an adjustment in accordance with § 10(e), the date on which the merger or the split-up of the Issuer becomes effective; or
- (iv) in the case of an adjustment in accordance with § 10(i), the date on which such adjustment becomes effective, as determined by the Independent Expert.

In the case of any Bond in respect of which the Conversion Right has been exercised no adjustments in accordance with this § 10 will be made if:

- (i) the Adjustment Date falls on or after the relevant Settlement Date; or
 - (ii) the Record Date of the relevant event triggering an adjustment to the Conversion Price in accordance with § 10 falls on or after the relevant Settlement Date.
- (k) Adjustments in accordance with the foregoing provisions will be calculated by the Calculation Agent, subject to § 13(c). The Conversion Price determined in accordance with this § 10, if not an integral multiple of US\$ 0.0001, will be rounded down to the nearest whole multiple of US\$ 0.0001, and any subsequent adjustment to the Conversion Price shall be made on the basis of such Conversion Price so rounded.
- (l) Notwithstanding anything to the contrary in these Terms and Conditions, the Conversion Price applicable in respect of any exercise of Conversion Rights shall never be lower than the nominal amount per Ordinary Share prevailing on the relevant Conversion Date. If the Conversion Price in effect on such date is lower than such nominal amount per Ordinary Share, the Conversion Price applicable to such exercise shall instead be such nominal amount per Ordinary Share, and the Issuer will not be obliged to compensate the Bondholders by a cash payment or in any other way.
- (m) In these Terms and Conditions, the following terms will have the following meaning:

"Average Market Price" means the arithmetic average of the daily Share Prices, on the last three Trading Days before the Ex-Date, as calculated by the Calculation Agent.

"Cash Dividend" means any cash dividend or other cash distribution paid by the Issuer per Ordinary Share prior to deduction of any withholding tax.

If the Issuer grants to its Shareholders an option to receive any Cash Dividend distributed in the form of Ordinary Shares or other securities, rights or assets in lieu of the cash amount thereof (the cash dividend subject to such option, a "**Scrip Dividend**"), then such Scrip Dividend shall be deemed to be a Cash Dividend in an amount determined in accordance with clause (ii) of the definition of the term "Fair Market Value".

"Ex-Date" means the first Trading Day on which the Ordinary Share is traded "ex dividend" or "ex subscription right" or "ex" any other distribution, allotment or grant of securities, rights or other assets.

"Fair Market Value" of a dividend, a subscription right or any other distribution, allotment or grant of securities (including Spin-off Shares), rights or other assets, on any FMV Date, means,

- (i) if the Issuer pays to its Shareholders a Cash Dividend (other than a Scrip Dividend) or distributes any other cash amount, the amount of such Cash Dividend or the amount of such other distribution in cash per Ordinary Share prior to deduction of any withholding tax on such FMV Date, as determined by the Calculation Agent;
- (ii) in the case of a Scrip Dividend, the greater, as determined by the Calculation Agent, of the following amounts:
 - (A) the cash amount thereof on such FMV Date; and
 - (B) the value of the shares or other securities, rights or assets offered by the Issuer as an alternative to such cash amount. Such value will be equal to,
 - (I) in the case of Ordinary Shares,
 - (1) the fair market value of such Ordinary Shares on such FMV Date as calculated pursuant to the formula in clause (iii) below, or
 - (2) if the Scrip Determination Date falls on or after the Ex-Date of the Scrip Dividend, the product of the number of Ordinary Shares distributed per existing Ordinary Share and the arithmetic average of the daily Share Prices, on the three Trading Days ending on and including the Trading Day prior to the Scrip Determination Date (provided that if the Ordinary Share is quoted "cum" such Scrip Dividend on one or more of such Trading Days, the relevant daily Share Price on each such Trading Day shall be reduced by an amount equal to the fair market value of such Scrip Dividend on the Ex-Date of such Scrip Dividend), and
 - (II) in the case of other securities, rights or assets, the fair market value of such other securities, rights or assets, as determined pursuant to clause (iv) or, as the case may be, clause (v) below, on the later of the following days: (1) the Ex-Date of the Scrip Dividend or (2) the Scrip Determination Date, all as determined by the Calculation Agent;
 - (iii) in the case of Ordinary Shares (for the purposes of § 10(d)(i) or clause (ii)(B)(I)(1) above), the amount calculated by the Calculation Agent in accordance with the following formula:

$$F = \frac{(M \times N)}{(1 + N)}$$

Where:

F = the Fair Market Value on such FMV Date;

M = the Average Market Price; and

N = the number of Ordinary Shares distributed per existing Ordinary Share;

- (iv) in the case of any other distribution, allotment or grant of other securities (including Spin-off Shares), rights or other assets which are publicly traded on a Relevant Market of adequate liquidity (as determined by the Calculation Agent), the number of such other securities, other rights or other assets distributed, allotted or granted per Ordinary Share multiplied by the arithmetic average of the daily Security Prices of such security, right or other asset on the five Trading Days (or such shorter period as such securities, rights or other assets are publicly

traded) beginning on such FMV Date (or, if later, the Adjusted FMV Date), as calculated by the Calculation Agent; or

- (v) in the case of any other distribution, allotment or grant of other securities (including Spin-off Shares), rights or other assets which are not publicly traded on a stock exchange or securities market of adequate liquidity, the fair market value on such FMV Date of such other securities, rights or other assets distributed per Ordinary Share as determined by an Independent Expert,

in each case translated (if necessary) into US dollars at the Relevant FX Rate on the relevant FMV Date (or the relevant Adjusted FMV Date, if applicable).

Where:

"Adjusted FMV Date" means the first such Trading Day on which the relevant securities, rights or other assets are publicly traded.

"FMV Date" means any date for which the Fair Market Value of any security, right or other asset is to be determined.

"Relevant FX Rate" means on any day, and, in respect of the conversion of any currency into US dollars the spot mid-rate of exchange at 1:00 p.m. Frankfurt time on that day for such pair of currencies as appearing on or derived from Bloomberg page BFIX (or any successor page thereto).

If the Relevant FX Rate cannot be determined in accordance with the foregoing provisions, the Relevant FX Rate shall be the exchange rate determined in accordance with the foregoing provisions *mutatis mutandis* but with respect to the last day preceding such day on which such rate can be determined. If the Relevant FX Rate cannot be so determined, an Independent Expert will determine the Relevant FX Rate on the basis of such quotations or other information as such Independent Expert considers appropriate; any such determination will be conclusive.

"Scrip Determination Date" means, in respect of a Scrip Dividend, the later of the following days: (i) the last date on which a holder of Ordinary Shares can make such election as is referred to in the definition of "Scrip Dividend", and (ii) the date on which the number of Ordinary Shares or other securities, rights or assets granted per existing Ordinary Share is determined.

"Record Date" means the relevant time for the determination of the entitlement of Shareholders of the Issuer to receive securities, rights, subscription rights, option or conversion rights, a dividend, a distribution or Spin-off Shares or other entitlement (or any other equivalent time in respect of the relevant circumstances as determined by the Calculation Agent (provided that the Calculation Agent determines, in its sole discretion, that it is capable, acting in such Calculation Agent capacity, of performing such determination) or an Independent Expert).

"Security Price" on any Trading Day means

- (i) the volume-weighted average price of the relevant security, right or other asset on the Relevant Market on the relevant Trading Day
- (A) appearing on the Bloomberg screen page HP (setting "Weighted Average Line") for such security, right or other asset in respect of the Relevant Market and the relevant Trading Day on the Bloomberg information system (or any successor screen page or setting), or

- (B) if no such volume-weighted average price of the security, right or other asset is available as aforesaid from the Bloomberg information system, the volume-weighted average price of such security, right or other asset on the Relevant Market on the relevant Trading Day as derived from the Relevant Market (or other appropriate source as determined by an Independent Expert), or
- (ii) if no such volume-weighted average price of the security, right or other asset is available, the official closing price of the security, right or other asset as reported on the Relevant Market on the relevant Trading Day, or
- (iii) if no such official closing price of the security, right or other asset is reported on the Relevant Market on the relevant Trading Day, the last reported official quotation of the security, right or other asset on the Relevant Market, on the relevant Trading Day, or
- (iv) if no such quotations or prices are available, an Independent Expert will determine the Security Price on the basis of such quotations or other information as such Independent Expert considers appropriate; any such determination will be conclusive. Any reference in these Terms and Conditions to the Security Price will include, if the determination of the Security Price is discontinued, a reference to a quotation which replaces the Security Price (x) by operation of law or (y) on the basis of generally accepted market practice,

in each case translated (if necessary) into US dollars at the Relevant FX Rate on such Trading Day.

"Spin-off Shares" means the shares in the acquiring entity (or acquiring entities) which a shareholder of the Issuer is entitled to receive in the course of the demerger.

- (n) The Issuer will give notice in accordance with § 14 of an adjustment to the Conversion Price and/or any other adjustment to the terms of the Conversion Right as soon as practicable.
- (o) In making any calculation or determination of a Share Price, a Security Price, a Fair Market Value or an Average Market Price, adjustments (if any) shall be made as the Calculation Agent (provided that the Calculation Agent determines, in its sole discretion, that it is capable, acting in such Calculation Agent capacity, of performing such adjustment) or as an Independent Expert considers appropriate to reflect any issue of Ordinary Shares as a result of a share capital increase from the conversion of the capital reserve or retained earnings (§ 10(a)(i)), any share split/reverse share split of the Ordinary Shares or combining of Ordinary Shares (§ 10(a)(ii)), any issue of Ordinary Shares as a result of a share capital increase with subscription rights (§ 10(b)), any issue of Other Securities with subscription rights (§ 10(c)) or any similar event, or to take account (to the extent required to give the intended result) of any distribution or other entitlement in respect of which the Ordinary Share is quoted "cum" or "ex" on the relevant day or during part or all of the relevant period.

§ 11 Acquisition of Control, Take-over Bid

- (a) *Acquisition of Control.*
 - (i) If an Acquisition of Control occurs, the Issuer will, as soon as practicable after becoming aware thereof, give notice in accordance with § 14 of the Acquisition of Control, the Control Record Date and the adjusted Conversion Price determined in accordance with § 11(c).
 - (ii) If an Acquisition of Control occurs and a Bondholder validly exercises the Conversion Right in respect of any Bond during the period from and including the date on which the Issuer gives notice in accordance with § 11(a)(i) of an Acquisition of Control to and including 4:00 p.m. (Frankfurt time) on the Control Record Date, then the Conversion Price for purposes of § 8 will be the Conversion Price adjusted in accordance with § 11(c).

- (iii) If the Issuer gives notice in accordance with § 11(a)(i) of the Acquisition of Control, each Bondholder may at its option on giving not less than 10 calendar days' notice prior to the Control Record Date declare all or some only of its Bonds not previously converted or redeemed due by giving notice in accordance with § 11(a)(iv) which notice will take effect on the Control Record Date.
 - (iv) The relevant Bondholder must give the notice by delivering it in text form to the Principal Paying Agent in accordance with the rules and procedures of the Clearing System. The notice is irrevocable. The relevant Bondholder must provide evidence that he is the holder of the respective Bond(s) at the time of the notice and deliver to the Principal Paying Agent the Bond(s) for which the put right is being exercised by means of a certificate from its Custodian.
- If a Bondholder gives notice in accordance with this § 11(a)(iv), the Issuer must redeem the Bond(s) for which the put right is being exercised at their Principal Amount on the Control Record Date.

(b) *Take-over Bid.*

- (i) If any Bidder publishes a Take-over Bid in accordance with § 14(2) WpÜG, the Issuer will, as soon as practicable after becoming aware of the publication, give notice in accordance with § 14 of the Take-over Bid and of the prospective Acceptance Record Date.
- (ii) Conditional Conversion Notice
 - (A) If the Issuer gives notice in accordance with § 11(b)(i) of a Take-over Bid, each Bondholder has the right to exercise the Conversion Right in respect of any Bond at the Conversion Price adjusted in accordance with § 11(c) only by giving a Conversion Notice that is conditional on the occurrence of an Acceptance Event and designated as conditional (the "**Conditional Conversion Notice**"). § 8(b)(i) shall apply *mutatis mutandis* to the Conditional Conversion Notice, subject to the following: the Conditional Conversion Notice must be received by the Principal Conversion Agent before the end of the Conditional Conversion Notice Period, and is irrevocable even if the acceptance period pursuant to § 16(1) WpÜG is extended after submission of the Conditional Conversion Notice. Where any such Conditional Conversion Notice is validly submitted on a day which falls in more than one Conditional Conversion Notice Period, such notice shall specify in respect of which Take-over Bid the Conditional Conversion Notice applies.
 - (B) In addition, the Bondholder is required to deliver to the Principal Conversion Agent the Bonds to be converted in accordance with § 8(b)(ii) before the end of the Conditional Conversion Notice Period.
 - (C) Any Conditional Conversion Notice becomes unconditional at the end of the day on which the Acceptance Event occurs.
 - (D) If an Acceptance Event occurs, the Issuer will give notice in accordance with § 14 of this fact, the adjusted Conversion Price determined in accordance with § 11(c) and the Acceptance Record Date as soon as practicable after the publication by the Bidder of the announcement triggering the occurrence of the Acceptance Event.
 - (E) The relevant Conversion Date will be determined in accordance with § 8(b)(iv)(C). If a Bondholder delivers to the Principal Conversion Agent the Conditional Conversion Notice and/or the Bonds to be converted after 4:00 p.m. (Frankfurt time) on the last day of the Conditional Conversion Notice Period, the Conditional Conversion Notice will

be treated as a normal Conversion Notice and the relevant Conversion Date will be determined in accordance with § 8(b)(iv)(A).

- (F) In the case of a Conditional Conversion Notice the number of Settlement Shares determined in accordance with § 11(d) and § 8(d)(i) must be transferred to the securities account of the converting Bondholder specified in the Conditional Conversion Notice as soon as possible and no later than on the Scheduled Settlement Date pursuant to clause (x) of the definition of this term.
 - (G) If it is certain that no Acceptance Event will occur, the Conditional Conversion Notice expires.
- (iii) If, during the Conditional Conversion Notice Period, a Bondholder delivers a Conversion Notice that is not designated as a Conditional Conversion Notice, such notice will be treated as a normal Conversion Notice and conditions of § 11(b)(ii) and § 11(c) will not apply to such Conversion Notice.
- (c) *Calculation of the adjusted Conversion Price.*

$$CP_a = \frac{CP}{1 + Pr \times \frac{c}{t}}$$

Where:

- CP_a = the adjusted Conversion Price;
- CP = the Conversion Price on the day immediately preceding the day on which the Acceptance Event or the Acquisition of Control, as applicable, occurs;
- Pr = the initial conversion premium of 55 per cent.;
- c = the number of days from and including the date on which the Acquisition of Control or the Acceptance Event, as applicable, occurs to but excluding the Maturity Date; and
- t = the number of days from and including the date of issue of the Bonds to but excluding the Maturity Date.

If, by applying the above formula, (i) CP_a would be greater than CP, there will be no adjustment of the Conversion Price, or (ii) the Conversion Price would be reduced below the nominal amount per share in effect on the date of such adjustment, the Conversion Price shall instead be equal to such nominal amount.

In the case of an Acquisition of Control, the adjustment to the Conversion Price in accordance with this § 11(c) will become effective on the date on which the Acquisition of Control occurs.

In the case of a Take-over Bid, the adjustment to the Conversion Price in accordance with this § 11(c) will become effective the date on which the Acceptance Event occurs.

In the case of a Take-over Bid, in connection with which an Acceptance Event as well as an Acquisition of Control occurs, the Conversion Price shall be adjusted in accordance with this § 11(c) only once (and as of the time at which the first of these events occurs).

In no event shall the Conversion Price be adjusted more than once in accordance with this § 11(c) during any period starting with the notice by the Issuer of an Acquisition of Control or a Take-over Bid and ending on the Control Record Date (in case of an Acquisition of Control) or the day of the settlement of the Take-over Bid (in case of a Take-over Bid).

§ 10(k), (l) and (n) apply *mutatis mutandis*.

(d) *Net Share Settlement following an Acceptance Event.*

(i) The Issuer, upon any valid exercise of the Conversion Rights in accordance with § 11(b), will, in respect of the Principal Amount per Bond,

(A) convert a portion of the Principal Amount as is equal to the number of Acceptance Event Net Shares multiplied with the Conversion Price adjusted in accordance with § 11(c) into such number of Settlement Shares as is equal to the number of Acceptance Event Net Shares, and issue and/or deliver the number of Acceptance Event Net Shares in accordance with § 8(d)(i) applied *mutatis mutandis* no later than on the Scheduled Settlement Date (subject to § 9(c)); and

(B) pay to the relevant Bondholder the Acceptance Event Cash Conversion Amount by transfer to the cash account specified in the relevant Conditional Conversion Notice on the Scheduled Settlement Date.

(ii) On or prior to the Conversion Date the Calculation Agent will determine the Acceptance Event Cash Conversion Amount in accordance with this § 11(e)(ii).

"Acceptance Event Cash Conversion Amount" means the lower of the following amounts:

(A) the Principal Amount; and

(B) the Acceptance Event Conversion Value (rounded to the nearest US\$ 0.01, with US\$ 0.005 being rounded upwards),

all as determined by the Calculation Agent.

"Acceptance Event Conversion Value" or **"AECV"** means the amount determined by the Calculation Agent in accordance with the following formula:

$$\text{AECV} = \text{AEGR} \times \text{OP}$$

Where:

"AEGR" or **"Acceptance Event Conversion Ratio"** per Bond is equal to the Principal Amount divided by the Conversion Price adjusted in accordance with § 11(c); and

"OP" means the Offer Price, translated (if necessary) into US dollars at the Relevant FX Rate on the Acceptance Record Date.

(iii) On or prior to the Conversion Date the Calculation Agent will determine the Acceptance Event Net Shares in accordance with this § 11(d)(iii).

"Acceptance Event Net Shares" means,

(A) if the Acceptance Event Conversion Value is equal to or lower than the Principal Amount, zero; and

(B) if the Acceptance Event Conversion Value exceeds the Principal Amount, the number of Settlement Shares determined by the Calculation Agent in accordance with the following formula (rounded to the nearest whole multiple of 0.00001, with 0.000005 rounded upwards):

$$\frac{\text{B}}{\text{OP}}$$

Where:

"**B**" means (x) the Acceptance Event Conversion Value minus (y) the Principal Amount; and

"**OP**" means the Offer Price, translated (if necessary) into US dollars at the Relevant FX Rate on the Acceptance Record Date.

- (e) *Definitions.* In these Terms and Conditions:

An "**Acceptance Event**" occurs when upon a Take-over Bid (i) after the expiry of the Initial Acceptance Period, the Bidder has published an announcement pursuant to § 23(1) sentence 1 No. 2 WpÜG according to which the Take-over Bid has been accepted for a number of Ordinary Shares which (together with Ordinary Shares already held by or attributable to the Bidder pursuant to the provisions of § 30 WpÜG) corresponds at least to such number of Ordinary Shares as are necessary to provide Control, and (ii) the Bidder has published an announcement according to which all offer conditions (including any minimum acceptance thresholds) have been satisfied at the latest upon expiry of the Initial Acceptance Period, except for (x) such offer conditions that have been validly waived and (y) such offer conditions the satisfaction of which may remain pending upon the expiration of the Initial Acceptance Period (such as conditions in relation to regulatory approvals, in particular merger control approvals, or the completion of capital measures of the Bidder in order to secure the offer consideration); provided, however, that an Acceptance Event cannot occur anymore if any offer condition cannot be fulfilled (already before or at the same time) any longer and the offer has, thus, failed.

"**Acceptance Record Date**" means the last day of the Initial Acceptance Period (taking into account extensions of this period, if any, pursuant to, or in accordance with, applicable laws and regulations).

An "**Acquisition of Control**" will be deemed to have occurred

- (i) if after the date of issue of the Bonds any Person or Persons or any partnership ("**Relevant Person(s)**") and/or any Person or Persons acting on behalf of any such Relevant Person(s), (irrespective of whether the management board (*Vorstand*) or the supervisory board (*Aufsichtsrat*) of the Issuer has given its consent thereto) acquire(s) Control of the Issuer (unless the acquirer is a credit institution, financial service provider or agent that acquires the relevant Ordinary Shares only temporarily in a transitory function in connection with the implementation of a capital measure or corporate action; or
- (ii) in the event of a Mandatory Offer for Ordinary Shares of the Issuer a situation arises in which (x) Ordinary Shares of the Issuer already in the direct or indirect, legal and/or beneficial, ownership (within the meaning of the Dutch Act on Financial Supervision) of the Bidder and (y) Shares in the Issuer in relation to which the Mandatory Offer has already been accepted, carry in aggregate 50 per cent. or more of the voting rights in the Issuer.

"**Bidder**" is the Person or partnership making the Take-over Bid or the Mandatory Offer.

"**Conditional Conversion Notice Period**" means the period commencing on the day on which the Issuer gives notice in accordance with § 11(b)(i) and ending at 4:00 pm (Frankfurt time) on the Acceptance Record Date.

"**Control**" means means direct or indirect ownership of Ordinary Shares, alone or acting in concert with other parties (within the meaning of article 5:70 of the Dutch Act on Financial Supervision), carrying an aggregate 50 per cent. or more of the voting rights in the Issuer.

"Control Record Date" means the Business Day fixed by the Issuer in accordance with § 11(a)(i) which will be not less than 40 and no more than 60 days after the date on which the notice of the Acquisition of Control is published in accordance with § 14.

"Initial Acceptance Period" means the acceptance period pursuant to § 16(1) WpÜG (not the additional acceptance period pursuant to § 16(2) WpÜG).

"Mandatory Offer" means any mandatory offer (*Pflichtangebot*) for Ordinary Shares, pursuant to article 5:70 of the Dutch Act on Financial Supervision or – in case the Issuer is not or no longer subject to the Dutch Act on Financial Supervision but to the comparable takeover regulation of another jurisdiction – according to this comparable takeover regulation, which is addressed to the shareholders of the Issuer by any Person or partnership other than the Issuer.

"Offer Price" means the consideration offered by the Bidder, including subsequent increases of the consideration to the extent that the Bidder publishes such increases no later than the date on which the Acceptance Event occurs, provided that:

- (i) if the consideration comprises solely cash which is expressed by the Bidder in the relevant offer document as a single fixed amount in a single currency, the Offer Price shall be deemed to be such fixed cash amount in the currency in which it is so expressed by the Bidder (whether or not such cash amount may be subsequently paid to certain holders of the Ordinary Shares in another currency based on the exchange rate prevailing at or around the date of payment of such cash amount); and
- (ii) in any other case, including without limitation if the consideration is a fixed cash amount expressed in more than one currency, if the consideration comprises shares, or if there is more than a single type of consideration, the Offer Price shall be the amount of any such consideration as at 4:00 pm (Frankfurt time) on the Acceptance Record Date, as determined by an Independent Expert.

"Take-over Bid" means any voluntary take-over bid for Ordinary Shares of the Issuer, subject to the Dutch Act on Financial Supervision or – in case the Issuer is not or no longer subject to the Dutch Act on Financial Supervision but to the comparable takeover regulation of another jurisdiction – according to this comparable takeover regulation, which is addressed to the shareholders of the Issuer by any Person or partnership other than the Issuer.

§ 12 Termination Rights of the Bondholders

- (a) Each Bondholder will be entitled to declare all or some only of its Bonds due and demand immediate redemption of such Bonds at the Principal Amount if any of the following events (each an **"Event of Default"**) occurs:
 - (i) the Issuer fails to pay principal or any other amount in respect of the Bonds within three Business Days from the relevant due date;
 - (ii) the Issuer fails to duly perform any other obligation arising from the Bonds and such default, except where such default is incapable of remedy, continues unremedied for more than 60 calendar days after the Issuer (through the Principal Paying Agent) has received notice thereof from a Bondholder;
 - (iii) (A) any Capital Markets Indebtedness of the Issuer or any Material Subsidiary is declared to be due and payable prior to its stated maturity as a result of any default (however described) and the aggregate amount of all Capital Markets Indebtedness referred to herein reaches or exceeds US\$ 50,000,000 (or its equivalent in any other currency or currencies); or

- (B) any Capital Markets Indebtedness of the Issuer or any Material Subsidiary is not paid when due and payable after expiration of any applicable grace period and the aggregate amount of all Capital Markets Indebtedness referred to herein reaches or exceeds US\$ 50,000,000 (or its equivalent in any other currency or currencies).
- (iv) the Issuer or any Material Subsidiary suspends its payments in their entirety or announces its inability to meet its financial obligations;
- (v) a competent court opens insolvency proceedings against the Issuer or any Material Subsidiary which is not dismissed or stayed within 60 days after the commencement thereof, or the Issuer or any Material Subsidiary institutes such a proceeding;
- (vi) the Issuer ceases all or substantially all of its business operations or sells or otherwise transfers all or substantially all of its assets to third parties (except for any Subsidiary); or
- (vii) the Issuer is wound up, unless this is effected in connection with a merger or another form of amalgamation with another company or in connection with a restructuring, and the other or the new company assumes all obligations of the Issuer arising under the Bonds.

The right to declare Bonds due will terminate if the situation giving rise to it has been cured before such right is exercised.

- (b) Any notice declaring Bonds due in accordance with § 12(a) will be made by means of a declaration in text form in the German or English language to the Principal Paying Agent in accordance with the rules and procedures of the Clearing System. Evidence that such Bondholder at the time of such notice is a holder of the relevant Bonds shall be attached to the declaration. Such evidence can be provided by means of a certificate of the Custodian or in any other appropriate manner.
- (c) In the event specified in § 12(a)(ii) or § 12(a)(iii), any notice declaring Bonds due shall, unless at the time such notice is received any of the Events of Default specified in § 12(a)(i) or § 12(a)(iv)-(vii) has occurred, become effective only when the Principal Paying Agent has received such default notices from the Bondholders representing at least 25 per cent. of the aggregate principal amount of the Bonds then outstanding.
- (d) Termination notices received by the Principal Paying Agent after 4:00 p.m. (Frankfurt time) only become effective on the immediately succeeding Business Day.

§ 13 Paying Agents, Conversion Agents and Calculation Agent

- (a) Deutsche Bank AG will be the principal paying agent (the "**Principal Paying Agent**", and together with any additional paying agent appointed by the Issuer in accordance with § 13(b), the "**Paying Agents**"). Deutsche Bank AG will be the principal conversion agent (the "**Principal Conversion Agent**", and together with any additional conversion agent appointed by the Issuer in accordance with § 13(b), the "**Conversion Agents**").

The address of the specified offices of the Principal Paying Agent and the Principal Conversion Agent is:

Deutsche Bank Aktiengesellschaft, Taunusanlage 12, 60325 Frankfurt am Main, Federal Republic of Germany, Attention: Trust & Agency Services

Conv-Ex Advisors Limited, 30 Crown Place, London EC2A 4EB, United Kingdom, will be the calculation agent (the "**Calculation Agent**" and together with the Paying Agents and the Conversion Agents, the "**Agents**").

Each Agent will be exempt from the restrictions set forth in § 181 BGB and similar restrictions of other applicable laws.

In no event will the specified office of any Agent be within the United States.

- (b) The Issuer will procure that there will be a Principal Paying Agent, a Principal Conversion Agent and a Calculation Agent at all times. The Issuer is entitled to appoint other banks of international standing as Paying Agents or Conversion Agents, or, in the case of the Calculation Agent only, a bank of international standing or a financial adviser with relevant expertise. Furthermore, the Issuer is entitled to terminate the appointment of any Agent. In the event of such termination or such Agent being unable or unwilling to continue to act as Agent in the relevant capacity, the Issuer will appoint another bank of international standing as Paying Agent or Conversion Agent, or, in the case of the Calculation Agent only, a bank of international standing or a financial adviser with relevant expertise. Such appointment or termination will be published as soon as practicable in accordance with § 14, or, should this not be possible, be published in another appropriate manner.
- (c) All determinations, calculations and adjustments made by any Agent will be made in conjunction with the Issuer and will, in the absence of manifest error, be conclusive in all respects and binding upon the Issuer and all Bondholders.

Each Agent may engage the advice or services of any lawyers or other experts whose advice or services it deems necessary and may rely upon any advice so obtained. No Agent will incur any liability as against the Issuer or the Bondholders in respect of any action taken, or not taken, or suffered to be taken, or not taken, in accordance with such advice in good faith.
- (d) Each Agent acting in such capacity, acts only as agent of, and upon request from, the Issuer. There is no agency or fiduciary relationship between any Agent and the Bondholders (only in the case of the Principal Conversion Agent except with respect to the execution of the conversion of the Bonds), and no Agent shall incur any liability as against the Bondholders or any other Agent.
- (e) If the Issuer appoints an Independent Expert in accordance with these Terms and Conditions, § 13(c) and (d) shall apply *mutatis mutandis* to the Independent Expert.

§ 14 Notices

- (a) The Issuer will, subject to § 17(f), publish all notices concerning the Bonds on its homepage (www.qiagen.com). Any such notice will be deemed to have been given when so published by the Issuer.
- (b) If the Bonds are listed on any stock exchange and the rules of that stock exchange so require, all notices concerning the Bonds will be made in accordance with the rules of the stock exchange on which the Bonds are listed.
- (c) In addition, the Issuer may deliver any notice concerning the Bonds to the Clearing System for communication by the Clearing System to the Bondholders.
- (d) A notice effected in accordance with § 14(a) to (c) above will be deemed to be effected on the day on which the first such communication is, or is deemed to be, effective.

§ 15 Issue of Additional Bonds

The Issuer reserves the right from time to time without the consent of the Bondholders to issue additional Bonds with identical terms (save for *inter alia* the issue date), so that the same will be consolidated, form a single issue with and increase the aggregate principal amount of these Bonds. The term "Bonds" will, in the event of such increase, also comprise such additionally issued Bonds.

§ 16 Presentation Period

The period for presentation of the Bonds pursuant to § 801(1) sentence 1 BGB will be 10 years.

§ 17 Amendments to the Terms and Conditions, by resolution of the Bondholders; Joint Representative

- (a) *Amendment of the Terms and Conditions.* The Issuer may amend the Terms and Conditions with the consent of a majority resolution of the Bondholders pursuant to § 5 et seqq. of the German Act on Issues of Debt Securities (*Gesetz über Schuldverschreibungen aus Gesamtemissionen*), as amended from time to time (the "SchVG"). In particular, the Bondholders may consent to amendments which materially change the substance of the Terms and Conditions, including such measures as provided for under § 5 paragraph 3 SchVG by resolutions passed by such majority of the votes of the Bondholders as stated under § 17(b) below. A duly passed majority resolution shall be binding equally upon all Bondholders.
- (b) *Majority.* Except as provided by the following sentence and provided that the quorum requirements are being met, the Bondholders may pass resolutions by simple majority of the voting rights participating in the vote. Resolutions which materially change the substance of the Terms and Conditions, in particular in the cases of § 5 paragraph 3 numbers 1 through 9 SchVG, or relating to material other matters may only be passed by a majority of at least 75 per cent. of the voting rights participating in the vote (a "**Qualified Majority**").
- (c) *Passing of resolutions.* The Bondholders can pass resolutions in a meeting (*Gläubigerversammlung*) in accordance with § 5 et seqq. SchVG or by means of a vote without a meeting (Abstimmung ohne Versammlung) in accordance with § 18 and § 5 et seqq. SchVG.
 - (i) Attendance at the meeting and exercise of voting rights is subject to the Bondholders' registration. The registration must be received at the address stated in the convening notice no later than the third day preceding the meeting. As part of the registration, Bondholders must provide evidence of their eligibility to participate in the vote by means of a special confirmation of the Custodian in accordance with § 18(d)(i)(A) and (B) hereof in text form and by submission of a blocking instruction by the Custodian stating that the relevant Bonds are not transferable from and including the day such registration has been sent until and including the stated end of the meeting.
 - (ii) Together with casting their vote, Bondholders must provide evidence of their eligibility to participate in the vote without a meeting by means of a special confirmation of the Custodian in accordance with § 18(d)(i)(A) and (B) hereof in text form and by submission of a blocking instruction by the Custodian stating that the relevant Bonds are not transferable from and including the day such vote has been cast until and including the day the voting period ends.
- (d) *Second Meeting.* If it is ascertained that no quorum exists for the meeting in accordance with § 17(c)(i) or the vote without a meeting in accordance with § 17(c)(ii), in case of a meeting the chairman (*Vorsitzender*) may convene a second meeting in accordance with § 15 paragraph 3 sentence 2 SchVG or in case of a vote without a meeting the scrutineer (*Abstimmungsleiter*) may convene a second meeting within the meaning of § 15 paragraph 3 sentence 3 SchVG. Attendance at the second meeting and exercise of voting rights is subject to the Bondholders' registration. The provisions set out in § 17(c)(i) shall apply *mutatis mutandis* to Bondholders' registration for a second meeting.
- (e) *Bondholders' Representative.* The Bondholders may by majority resolution provide for the appointment or dismissal of a bondholders' representative (the "**Bondholders' Representative**"), the duties and responsibilities and the powers of such Bondholders' Representative, the transfer of the

rights of the Bondholders to the Bondholders' Representative and a limitation of liability of the Bondholders' Representative. Appointment of a Bondholders' Representative may only be passed by a Qualified Majority if such Bondholders' Representative is to be authorised to consent, in accordance with § 17(b) hereof, to a material change in the substance of the Terms and Conditions or other material matters.

- (f) *Publication.* Any notices concerning this § 17 shall be made exclusively pursuant to the provisions of the SchVG.

§ 18 Final Clauses

- (a) The form and content of the Bonds and the rights of the Bondholders and the obligations of the Issuer will in all respects be governed by the laws of the Federal Republic of Germany.
- (b) Place of performance is Frankfurt am Main, Federal Republic of Germany.
- (c) To the extent legally permitted, the courts of Frankfurt am Main, Federal Republic of Germany will have jurisdiction for any action or other legal proceedings arising out of or in connection with the Bonds. This is subject to any exclusive court of venue for specific legal proceedings in connection with the SchVG.
- (d) Any Bondholder may in any proceedings against the Issuer or to which the Bondholder and the Issuer are parties protect and enforce in its own name the rights arising under the Bonds on the basis of:
- (i) a certificate issued by the Custodian
 - (A) stating the full name and address of the Bondholder;
 - (B) specifying the aggregate principal amount of Bonds credited on the date of such statement to such Bondholder's securities accounts maintained with the Custodian; and
 - (C) confirming that the Custodian has given a notice to the Clearing System and the Principal Paying Agent containing the information specified in (A) and (B) and bearing acknowledgements of the Clearing System and the relevant account holder in the Clearing System; as well as
 - (ii) a copy of the Global Bond, certified as being a true copy by a duly authorised officer of the Clearing System or the Principal Paying Agent.

LIST OF SUBSIDIARIES

The following is a list of the Registrant's subsidiaries as of December 31, 2020, other than certain subsidiaries that did not in the aggregate constitute a significant subsidiary.

Company Name	Jurisdiction of Incorporation
Amnisure International LLC	USA
Cellestis Pty. Ltd.	Australia
Life Biotech Partners B.V.	Netherlands
NeuMoDx Inc.	USA
STAT-Dx Life S.L.	Spain
QIAGEN Aarhus A/S	Denmark
QIAGEN AB	Sweden
QIAGEN AG	Switzerland
QIAGEN Australia Holding Pty. Ltd.	Australia
QIAGEN Benelux B.V.	Netherlands
QIAGEN Beverly LLC	USA
QIAGEN China (Shanghai) Co. Ltd.	China
QIAGEN Luxembourg SARL	Luxembourg
QIAGEN Deutschland Holding GmbH	Germany
QIAGEN Finance (Malta) Ltd.	Malta
QIAGEN France S.A.S.	France
QIAGEN Gaithersburg LLC	USA
QIAGEN GmbH	Germany
QIAGEN Hamburg GmbH	Germany
QIAGEN Inc.	Canada
QIAGEN Instruments AG	Switzerland
QIAGEN K.K.	Japan
QIAGEN LLC	USA
QIAGEN Ltd.	UK
QIAGEN Manchester Ltd.	UK
QIAGEN Marseille S.A.	France
QIAGEN North American Holdings Inc.	USA
QIAGEN Pty. Ltd.	Australia
QIAGEN Redwood City Inc.	USA
QIAGEN Sciences LLC	USA
QIAGEN S.r.l.	Italy
QIAGEN Treasury Management Services Ltd.	UAE
QIAGEN U.S. Finance LLC	USA

CERTIFICATION UNDER SECTION 302

I, Thierry Bernard, certify that:

1. I have reviewed this annual report on Form 20-F of QIAGEN N.V.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: March 4, 2021

/s/ Thierry Bernard

Thierry Bernard

Managing Director and Chief Executive Officer

CERTIFICATION UNDER SECTION 302

I, Roland Sackers, certify that:

1. I have reviewed this annual report on Form 20-F of QIAGEN N.V.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: March 4, 2021

/s/ Roland Sackers

Roland Sackers

Managing Director and Chief Financial Officer

CERTIFICATIONS UNDER SECTION 906

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of QIAGEN N.V., does hereby certify, to such officer's knowledge, that: The Annual Report for the year ended December 31, 2020 (the "Form 20-F") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 20-F fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 4, 2021

/s/ Thierry Bernard

Thierry Bernard

Managing Director and Chief Executive Officer

Dated: March 4, 2021

/s/ Roland Sackers

Roland Sackers

Managing Director and Chief Financial Officer

Consent of Independent Registered Public Accounting Firm

The Supervisory Board
QIAGEN N.V.:

We consent to the incorporation by reference in the registration statement (No. 333-162052) on Form F-3 and the registration statements (Nos. 333-178035, 333-127393, 333-145171, 333-203220, and 333-217742) on Form S-8 of QIAGEN N.V. of our reports dated March 4, 2021, with respect to the consolidated balance sheets of QIAGEN N.V. as of December 31, 2020 and 2019, the related consolidated statements of income (loss), comprehensive income (loss), changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule as listed in Item 18 (A) (collectively, the “consolidated financial statements”), and the effectiveness of internal control over financial reporting as of December 31, 2020, which reports appear in the December 31, 2020 annual report on Form 20-F of QIAGEN N.V.

Our report on the consolidated financial statements refers to a change in the method of accounting for expected credit losses on financial instruments and other commitments upon the adoption of Accounting Standards Codification Topic 326 – *Measurement of Credit Losses on Financial Instruments*, in 2020 and a change in the method for accounting for leases upon the adoption of Accounting Standards Codification Topic 842 – *Leases*, in 2019.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

Düsseldorf, Germany
March 4, 2021