

# MANAGEMENT REPORT

## Performance Review

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.

## Results of Operations

### Overview

We are a leading global provider of Sample to Insight solutions to transform biological materials into valuable molecular insights. QIAGEN sample technologies isolate and process DNA, RNA and proteins from any biological sample, such as blood or tissue. Assay technologies make these biomolecules visible and ready for analysis, such as identifying the DNA of a virus or a mutation of a gene. Bioinformatics solutions 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 four major customer classes:

- › **Molecular Diagnostics** - healthcare providers engaged in many aspects of patient care including Prevention, Profiling of diseases, Personalized Healthcare and Point of Need testing
- › **Applied Testing** - government or industry customers using molecular technologies in fields such as forensics, veterinary diagnostics and food safety testing
- › **Pharma** - pharmaceutical and biotechnology companies using molecular testing to support drug discovery, translational medicine and clinical development efforts
- › **Academia** - researchers exploring the secrets of life such as the mechanisms and pathways of diseases, and in some cases translating that research into drug targets or commercial applications

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, 2017, we employed approximately 4,700 people in more than 35 locations worldwide.

## Recent Acquisitions

We have made a number of strategic acquisitions and implemented other strategic transactions since 2015, targeting innovative technologies and aiming to achieve market-leading positions 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 early 2018, QIAGEN entered into a purchase agreement to acquire STAT-Dx, a privately-held company developing advanced multiplex diagnostics for widespread syndromes such as serious respiratory or gastrointestinal infections. Subject to successful completion of defined development activities by STAT-Dx, QIAGEN has agreed to acquire all shares of STAT-Dx for approximately \$147 million in cash and additional payments of up to about \$44 million based on the achievement of regulatory and commercial milestones. The acquisition is expected to be completed in the second quarter of 2018 and funded from existing cash reserves. The transaction will expand QIAGEN's instrument and consumables portfolio by adding a novel CE-IVD marked system, to be branded as QIAstat-Dx, enabling Sample to Insight processing of up to 48 molecular targets with cost-efficient, easy-to-use assays. The first two QIAstat-Dx tests, extensive respiratory and gastrointestinal panels, are expected to be launched in Europe and other markets in the second half of 2018, and in the U.S. following expected regulatory approval in 2019.
- › QIAGEN entered into a joint venture in May 2017 with Maccura Biotechnology Co., Ltd., a leading in vitro diagnostics company in China, to accelerate the growth of QIAGEN's GeneReader NGS System. Known as MAQGEN China and based in Chengdu, Sichuan Province, the venture will develop local adaptations, pursue regulatory paths for the GeneReader and leverage Maccura's broad customer network to expand the system's adoption in laboratories across China. Maccura owns 60% of the joint venture and QIAGEN owns 40%. QIAGEN's own operations in China continue as a stand-alone company, focusing on our other products and services for customers such as QuantiFERON-TB and the Life Sciences portfolio.
- › QIAGEN took steps in late 2017 to streamline its product portfolio and focus on growth areas by discontinuing commercialization of some non-core PCR tests and externalizing the HPV test franchise for cervical cancer screening in China to a third-party company. In January 2018, a partnership became effective with a Chinese company that has taken over R&D, commercial distribution, and the related QIAGEN employees and infrastructure of the HPV test franchise in China. QIAGEN is a minority shareholder of this company.
- › In January 2017, QIAGEN acquired OmicSoft Corporation, a privately held company based in the Research Triangle area of North Carolina, to expand our industry-leading bioinformatics offering with complementary solutions enabling scientists to visualize and mine large institutional and publicly available "omics" datasets. The OmicSoft software solutions meet a growing need in discovery and translational research to access and manage huge amounts of data on DNA, RNA and other biological variables generated by next-generation sequencing studies.
- › In 2016, QIAGEN acquired Exiqon A/S, a publicly traded company based in Vedbaek, Denmark, expanding our leadership position in Sample to Insight solutions for RNA analysis. Exiqon's RNA analysis solutions, with proprietary Locked Nucleic Acid (LNA) technology, are used by academic, biotech and pharmaceutical researchers worldwide to explore correlations between gene activity and the development of cancer and other diseases. In two steps during 2016, we paid a total of \$100.7 million for 100% of the shares of Exiqon. In 2017, Exiqon's product offering was fully integrated into QIAGEN, providing customers of both companies ready access to the combined portfolio of solutions.

- › In 2015, we acquired MO BIO Laboratories, Inc., a privately-held provider of cutting-edge sample technologies for studies of the microbiome and metagenomics, analyzing the impact of microbial diversity on health and the environment. The acquisition added a complementary portfolio of sample technologies to QIAGEN's universal solutions for next-generation sequencing. MO BIO kits, based on proprietary Inhibitor Removal Technology, enable the isolation of pure DNA from challenging samples like soil, water, plants and stool.
- › In 2015, we acquired an innovative technology from AdnaGen GmbH, a subsidiary of Alere Inc., that enables enrichment and molecular analysis of circulating tumor cells (CTCs) from blood samples. The acquisition added to QIAGEN's pipeline of technologies for molecular testing through non-invasive liquid biopsies as an alternative to costly and risky tissue biopsies. Other assets acquired include two marketed CE-IVD marked products, AdnaTest BreastCancer and AdnaTest Prostate Cancer, for treatment monitoring and detection of tumor relapse.
- › In February 2015, we announced the spin-off of teams and activities of QIAGEN Marseille S.A. (formerly Ipsogen S.A.), a majority-owned and fully consolidated entity. In the divestiture, QIAGEN Marseille agreed to the sale of all its assets and liabilities, except its intellectual property portfolio, to a stand-alone company. QIAGEN retained rights to commercialize the ipsogen line of products, including companion diagnostics for blood cancers. As part of this initiative, we acquired the remaining QIAGEN Marseille shares through a tender offer during 2015 and 2016.

Our financial results include the contributions of recent acquisitions and the QIAGEN Marseille spin-off from their effective dates, as well as costs related to the transactions and integration of the acquired companies, such as the relocation and closure of certain facilities.

We determined that we operate as one business segment in accordance with ASC Topic 280, Segment Reporting. Our chief operating decision maker (CODM) makes decisions on business operations and resource allocation based on evaluations of the QIAGEN Group as a whole. Considering the acquisitions made during 2017, we determined that we still operate as one business segment. We provide certain revenue information by customer class to allow better insight into our operations. This information is estimated using certain assumptions to allocate revenue among the customer classes.

## Year Ended December 31, 2017, Compared to 2016

### Net Sales

In 2017, net sales grew 6% to \$1.42 billion compared to \$1.34 billion in 2016 with organic business expansion contributing four percentage points to total sales growth with two percentage points of additional growth from the June 2016 acquisition of Exiqon A/S, a leader in RNA analysis technologies, and the January 2017 acquisition of OmicSoft Corporation, a software provider unlocking valuable insights from large "omics" datasets. Sales growth of 6% includes an adverse impact of one percentage point related to growth of non-core PCR tests and the China HPV franchise, which beginning in January 2018 have either been discontinued or externalized through a partnership with a Chinese company which has taken over the commercial distribution of the HPV test franchise in China. All regions and customer classes supported higher sales of consumables and related revenues (+7% / 88% of sales) and instruments (+2% / 12% of sales).

### Net sales by geographic region

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	Full-year 2017		
	Sales (In \$ m)	% change	% of sales
Americas	\$ 653	+4%	46%
Europe / Middle East / Africa	\$ 463	+8%	33%
Asia-Pacific / Japan	\$ 299	+7%	21%

Top 7 emerging markets: Brazil, Russia, India, China, South Korea, Mexico and Turkey (\$234 million, +12%, 16% of sales)  
FY 2017: Rest of world represented less than 1% of net sales.

**Geographic regions:** Europe / Middle East / Africa led the geographic performance with 8% growth in 2017, including adverse currency movements of one percentage point of sales growth, and benefited from gains in Germany, Italy and Turkey. The Asia-Pacific / Japan region advanced 7%, due partially to strong performance in South Korea and India, which more than offset lower sales in Japan. Excluding the business portfolio change in China, the Asia-Pacific / Japan region experienced 13% growth, including one percentage point of favorable currency movements. The Americas advanced at a 5% pace, excluding U.S. HPV test sales, on higher sales of QuantiFERON-TB tests and improved conditions among Life Science customers. Excluding adverse currency movements of one percentage point, the top seven emerging markets expanded 12%, with key contributions from Turkey, South Korea, India and Brazil.

**Customer classes:** An overview of performance in QIAGEN's four customer classes:

## Net sales by product category and customer class

	Full-year 2017		
	Sales (In \$ m)	% change	% of sales
Consumables and related revenues	\$ 1,243	+7%	88%
Instruments	\$ 175	+2%	12%
Molecular Diagnostics <sup>(1)</sup>	\$ 683	+5%	48%
Applied Testing	\$ 137	+14%	10%
Pharma	\$ 275	+7%	19%
Academia	\$ 323	+4%	23%

(1) Includes companion diagnostic co-development revenues (\$43 million, +32%) and U.S. HPV sales (\$28 million, -16%, 2% of sales).

**Molecular Diagnostics**, which contributed approximately 48% of net sales, expanded 5% in 2017, after being reduced by adverse currency movements of one percentage point. The core portfolio delivered approximately 7% growth before adverse currency movements and the ongoing decline in sales of U.S. HPV test products (-16% / 2% of sales). Sales of consumables used on the QIASymphony automation platform also grew at a solid pace for the full year, as QIAGEN exceeded its goal for new QIASymphony placements in 2017. Sales growth of 5% includes an adverse impact of 1% related to the China HPV franchise, which beginning in January 2018 has been externalized through a partnership with a Chinese company.

**Applied Testing** represented approximately 10% of net sales and grew 14% in 2017 compared to 2016, with negligible favorable currency movements. Applied Testing advanced for instruments as well as consumables and related revenues, in part due to gains in the human identification / forensics portfolio.

**Pharma** experienced 7% sales growth in 2017 compared to 2016 and provided 19% of net sales, with negligible adverse currency movements. Pharma grew in consumables and related revenues that more than offset weaker instruments growth during the course of the year.

**Academia** represented approximately 23% of net sales and rose 4% in 2017 compared to 2016, with modestly favorable currency movements. Academia advanced on consumables and related revenues, while the EMEA and Asia Pacific / Japan regions showed growth during 2017.

## Gross Profit

Gross profit was \$922.6 million, or 65% of net sales, in 2017, compared with \$844.7 million, or 63% of net sales, in 2016. Generally, our consumables and related products have a higher gross margin than our instrumentation products and service arrangements. Fluctuations in the sales levels of these products and services can result in changes in gross margin between periods. Further, gross profit in 2017 was impacted by \$4.4 million in restructuring charges while 2016 was impacted by restructuring charges of \$12.0 million. Additionally, during 2016, we incurred incremental costs in connection with the relocation and centralization of the manufacturing of certain products to our European production site in Hilden, Germany and also in connection with the in-sourcing of the manufacturing of our QuantiFERON product to our U.S. site in Germantown, Maryland.

Amortization expense related to developed technology and patent and license rights, which have been acquired in business combinations, is included in cost of sales. The amortization expense on acquisition-related intangibles within cost of sales decreased to \$72.7 million in 2017 from \$80.1 million in 2016 reflecting the end of the amortization period of intangibles acquired in 2007. Acquisition-related intangible amortization may increase in the future should we make further acquisitions.

## Research and Development

Research and development expenses increased 3% to \$154.1 million (11% of net sales) in 2017, compared to \$149.8 million (11% of net sales) in 2016. The increase in research and development costs during 2017 reflects our ongoing investments in NGS and our life sciences portfolio, as well as our acquisitions of Exiqon in 2016 and OmicSoft in 2017 together with regulatory activity in support of new products. 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. Additionally, research and development costs are expected to increase as a result of seeking regulatory approvals, including U.S. FDA Pre-Market Approval (PMA), U.S. FDA 510(k) clearance and EU CE approval of certain assays or instruments. Further, business combinations, along with the acquisition of new technologies, may increase our research and development costs in the future. We have a strong commitment to innovation and expect to continue to make investments in our research and development efforts.

## Sales and Marketing

Sales and marketing expenses were largely unchanged at \$375.6 million (26% of net sales) in 2017 compared to \$376.3 million (28% of net sales) in 2016. Sales and marketing expenses were primarily associated with personnel, commissions, advertising, trade shows, publications, freight and logistics expenses, and other promotional expenses. We experienced efficiencies due to a lower cost base following the realignment of marketing activities as part of the 2016 restructuring project. These incremental savings were slightly offset by higher compensation costs including share based compensation expense when compared to the prior period due to reassessment of stock units with performance criteria. We anticipate that absolute sales and marketing costs will increase along with new product

introductions and growth in sales of our products, but decrease as a percentage of sales. Further, looking forward we expect a lower cost base following the realignment of marketing activities as part of the 2016 restructuring project.

## General and Administrative, Restructuring, Integration and Other

General and administrative, restructuring, integration and other costs increased by 11% to \$200.1 million (14% of net sales) in 2017 from \$180.6 million (13% of net sales) in 2016. The increase in 2017 reflects an increase in acquisition and integration costs which totaled \$68.9 million in 2017, which included \$45.3 million in costs from acquisition related legal settlements partially offset by \$3.3 million gains recorded from the reduction in the fair value of contingent consideration following unmet milestones, as compared to \$31.1 million in 2016, of which \$6.3 million related to the transaction costs incurred in connection with the acquisition of Exiqon A/S. Acquisition and integration related costs in 2016 are net of \$5.0 million of the total \$6.5 million gains recorded in general and administrative costs from the reduction in the fair value of contingent consideration following unmet milestones. 2016 also includes the impact of lower share based compensation costs following a reassessment of stock units with performance criteria. Restructuring costs of \$29.1 million were lower in 2017 compared to \$56.2 million in 2016 related to internal activities, including severance and retention costs as discussed fully in Note 6. As we further integrate the acquired companies and pursue other opportunities to gain efficiencies, we expect to continue to incur additional restructuring and business integration costs in 2018. Over time, we believe the restructuring and integration activities will reduce expenses as we improve efficiency in operations.

## 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 2017, amortization expense on acquisition-related intangibles within operating expense increased to \$39.4 million, compared to \$39.1 million in 2016. We expect acquisition-related intangible amortization will increase as a result of our future acquisitions.

## Other Income (Expense)

Total other expense, net was \$39.0 million in 2017, compared to \$41.9 million in 2016. Total other expense, net is primarily the result of interest expense and other expense, partially offset by interest income.

For the year ended December 31, 2017, interest income increased to \$10.6 million from \$6.8 million in 2016. Interest income includes interest earned on cash, cash equivalents and short term investments, income related to certain interest rate derivatives as discussed in Note 13 in the accompanying consolidated financial statements and other components including the interest portion of operating lease transactions.

Interest expense increased to \$49.7 million in 2017, compared to \$39.0 million in 2016. Interest costs primarily relate to debt, discussed in Note 15 in the accompanying consolidated financial statements.

Other expense, net for the year ended December 31, 2017 includes a \$3.5 million gain in connection with the sale of our interest in an equity-method investment as well as \$3.2 million in income from equity-method investments offset by a \$5.1 million loss recognized in connection with the impairments of cost-method investment and net losses on foreign currency in 2017. Included in \$9.7 million other expense, net in 2016 is a \$8.3 million loss recognized in connection with the impairment of an equity-method investment and a \$2.6 million charge for the disposal of goodwill following the transfer of the research and development activities of our instrumentation business as part of

the restructuring program initiated late in 2016. For the year ended December 31, 2017, we recorded net losses on foreign currency of \$3.3 million compared to less than \$0.1 million in 2016 due to foreign currency rate fluctuations.

## Provision for Income Taxes

Our effective tax rates differ from The Netherlands statutory tax rate of 25% due in part to our operating subsidiaries being exposed to effective tax rates ranging from zero to more than 40%. In 2017 and 2016, our effective tax rates were 64.7% and (41.1)%, respectively. The comparison is impacted by pre-tax book income which was higher in 2017 at \$114.4 million compared to \$56.9 million in 2016. Pretax book income was lower in 2016 primarily due to charges incurred in connection with the restructuring program initiated in the fourth quarter of 2016. 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.

During 2017, the 64.7% reflects the impacts of the U.S. tax reform. Because of the tax reform, we revalued of our U.S. deferred tax assets and liabilities to reflect the corporate income tax rate change from 35% to 21% and provided for a full valuation allowance of \$60.8 million which was recorded against deferred tax assets related to U.S. interest carry forwards. Based on the current debt level in the U.S., along with the new restrictive interest limitation enacted with the new U.S. tax reform, it is highly unlikely that the historic U.S. interest carry forward will ever be utilized. We also recorded full valuation allowances against other deferred tax assets on tax losses due to unlikely future profits in other jurisdictions. Following the adoption of ASU 2016-09 Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, \$5.2 million of excess tax benefit was recognized directly to the tax provision for the year ended December 31, 2017 and during 2017, we increased accruals for tax contingencies by \$22.1 million, primarily related to ongoing income tax audits. In 2016, tax expense on foreign operations was favorably impacted by lower income tax rates and partial tax exemptions on foreign income primarily derived from operations in Germany, Singapore, Luxembourg, Ireland and Switzerland. These foreign tax benefits are due to a combination of favorable tax laws, regulations, rulings, and exemptions in these jurisdictions. In particular, we have pre-tax income in Germany which is statutorily exempt from trade tax on intercompany foreign royalty income. Further, we have intercompany financing arrangements through Luxembourg and Ireland in which the intercompany income is partially exempt. See Note 16 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 of the 2017 Annual Report on Form 20-F files with the U.S. Securities and Exchange Commission.

## 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 in 2017 was \$3.3 million and in 2016 and 2015 was less than \$0.1 million, and \$0.5 million, respectively, and is included in other expense, net.

**Derivatives and Hedging.** In the ordinary course of business, we use derivative instruments, including swaps, forwards and/or options, to manage potential losses from foreign currency exposures and variable rate debt. The principal objective of such derivative instruments is to minimize the risks and/or costs associated with global financial and operating activities. We do not utilize derivative or other financial instruments for trading or speculative

purposes. We recognize all derivatives as either assets or liabilities on the balance sheet, measure those instruments at fair value and recognize the change in fair value in earnings in the period of change, unless the derivative qualifies as an effective hedge that offsets certain exposures. In determining fair value, we consider both the counterparty credit risk and our own creditworthiness, to 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 13 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, 2017 and 2016, we had cash and cash equivalents of \$657.7 million and \$439.2 million, respectively. We also had short-term investments of \$359.2 million at December 31, 2017. 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, 2017, cash and cash equivalents had increased by \$218.5 million from December 31, 2016, primarily as a result of cash provided by operating activities of \$286.8 million and cash provided by financing activities of \$387.2 million, partially offset by cash used in investing activities of \$464.3 million. Working capital as of December 31, 2017 increased to \$1.323 billion as compared to \$729.1 million as of December 31, 2016, reflecting the cash provided by the operating and financing activities in 2017 as described below.

**Operating Activities.** For the years ended December 31, 2017 and 2016, we generated net cash from operating activities of \$286.8 million and \$341.6 million, respectively. While net income was \$40.4 million in 2017, non-cash components in income included \$216.4 million of depreciation and amortization and \$5.1 million of non-cash impairments due to the impairment of cost-method investments as further discussed in Note 10.

Operating cash flows include a net decrease in working capital of \$95.2 million excluding changes in fair value of derivative instruments. The current period change in working capital is primarily due to increased inventories and accounts receivable and decreased taxes payable. 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 \$464.3 million of cash was used in investing activities during 2017, compared to \$179.1 million during 2016. Investing activities during 2017 consisted principally of \$450.6 million for purchases of short-term investments, \$90.1 million in cash paid for purchases of property and equipment, as well as \$34.3



million paid for intangible assets and \$4.8 million paid for strategic investments in privately and publicly held companies as discussed in Note 10, partially offset by \$189.0 million from the sale of short-term investments. Additionally, during 2017 cash paid for acquisitions, net of cash acquired, totaled \$50.5 million. Cash used in other investing activities during the year ended December 31, 2017 and 2016 consisted primarily of \$20.7 million and \$1.2 million, respectively, paid in connection with derivative collateral arrangements.

**Financing Activities.** For the year ended December 31, 2017, cash provided by financing activities was \$387.2 million compared to cash used in financing activities of \$10.6 million in 2016. Financing activities during 2017 consisted primarily of \$329.9 million net cash proceeds from the German private placement and \$394.4 million net cash proceeds from the cash convertible offering. We used \$73.6 million of the proceeds from the cash convertible offering to pay the premium for a call option related to the cash convertible notes, and simultaneously received \$45.4 million from the sale of Warrants, for a net cash outlay of \$28.3 million for the call spread overlay. Additionally in 2017, we used \$243.9 million for a capital repayment made to shareholders in connection with the January 2017 synthetic share buyback and repurchased QIAGEN shares of \$61.0 million in connection with the fourth share repurchase program discussed in Note 17 "Equity." Cash used in other financing activities during the year ended December 31, 2017 and 2016 consisted primarily of \$4.4 million and \$3.1 million paid for contingent consideration, respectively, together with \$4.1 million and \$0.8 million paid in connection with derivative collateral arrangements, respectively.

## Other Factors Affecting Liquidity and Capital Resources

In September 2017, we issued \$400.0 million aggregate principal amount of Cash Convertible Senior Notes which are due in 2023 (2023 Notes), which are discussed fully in Note 15 "Lines of Credit and Debt". Interest on the 2023 Notes is payable semiannually in arrears at a rate of 0.500% per annum. The 2023 Notes will mature on September 13, 2023 unless repurchased or converted in accordance with their terms prior to such date.

Additionally in 2017, we completed a German private placement of \$329.9 million, net of issuance costs, consisting of several tranches denominated in either U.S. dollars or Euro at either floating or fixed rates and due at various dates through June 2027 as described in Note 15 "Lines of Credit and Debt."

In October 2016, we extended the maturity of our €400 million syndicated revolving credit facility, which now has a contractual lifetime until December 2021 of which no amounts were utilized at December 31, 2017. The facility can be utilized in Euro, British pounds sterling, Swiss franc or U.S. dollar and bears interest of 0.40% to 1.20% above three months EURIBOR, or LIBOR in relation to any loan not in euro, and is offered with interest periods of one, two, three or six months. We have additional credit lines totaling €26.6 million with no expiration date, none of which were utilized as of December 31, 2017. We also have capital lease obligations, including interest, in the aggregate amount of \$1.5 million, and carry \$1.8 billion of long-term debt, of which no amounts are current as of December 31, 2017.

In March 2014, we issued \$730.0 million aggregate principal amount of Cash Convertible Senior Notes of which \$430.0 million is due in 2019 (2019 Notes) and \$300.0 million is due in 2021 (2021 Notes). We refer to the 2019 Notes, the 2021 Notes and the 2023 Notes collectively as the "Cash Convertible Notes" which are discussed fully in Note 15 to the consolidated financial statements. Interest on the 2019 and 2021 Notes is payable semiannually in arrears on March 19 and September 19 of each year, at rates of 0.375% and 0.875% per annum for the 2019 Notes and 2021 Notes, respectively, commencing on September 19, 2014. The 2019 Notes will mature on March 19, 2019 and the 2021 Notes will mature on March 19, 2021, unless repurchased or converted in accordance with their terms prior to such date.

In October 2012, we completed a U.S. private placement through the issuance of new senior unsecured notes at a total amount of \$400 million with a weighted average interest rate of 3.66% (settled on October 16, 2012). The

notes were issued in three series: (1) \$73 million 7-year term due in 2019 (3.19%); (2) \$300 million 10-year term due in 2022 (3.75%); and (3) \$27 million 12-year term due in 2024 (3.90%).

We had notes payable, which were the long-term borrowings of the proceeds from the issuances of \$150.0 million senior unsubordinated convertible notes, with a 1.5% coupon due in 2024 through QIAGEN Finance (2004 Notes). The 2004 Notes were convertible into our common shares at a conversion price of \$12.6449, subject to adjustment. In connection with conversions of \$14.9 million of the 2004 Notes, we previously repaid \$14.5 million of the debt to QIAGEN Finance. During 2015, we paid \$250.9 million for the redemption of the remaining loan and repurchased the warrant agreement with QIAGEN Finance and recognized a loss of \$7.6 million in other expense, net.

In connection with certain acquisitions, we could be required to make additional contingent cash payments totaling up to \$18.5 million based on the achievement of certain revenue and operating results milestones as follows: \$11.5 million in 2018 and \$7.0 million, payable in any 12-month period from now until 2029 based on the accomplishment of certain revenue targets. Of the \$18.5 million total contingent obligation, we have assessed the fair value at December 31, 2017, to be \$11.5 million, which is included in accrued liabilities in the accompanying balance sheet as of December 31, 2017.

In July 2014, we announced the launch of our third \$100 million share repurchase program to purchase up to another \$100 million of our common shares (excluding transaction costs). In 2014, 2.1 million QIAGEN shares were repurchased for \$49.1 million (excluding transaction costs) and in 2015 0.8 million QIAGEN shares were repurchased for \$20.8 million. This program expired in December 2015.

In April 2016, we announced the launch of our fourth \$100 million share repurchase program. In August 2016, we announced our intention to return a total amount of approximately \$300 million to our shareholders by the end of 2017. In January 2017, we completed a synthetic share repurchase that combined a direct capital repayment with a consolidation of shares. This approach has been used by various large, multinational Dutch companies to provide returns to shareholders in a faster and more efficient manner than traditional open-market purchases. \$243.9 million was repaid to shareholders through the transaction and the outstanding number of common shares was reduced by 8.9 million or 3.7%. As discussed further in Note 17 "Equity", the capital repayment program was completed in January 2017. During the remainder of 2017, 1.9 million QIAGEN shares were repurchased for \$61.0 million (including transaction costs) to complete the total program.

In January 2018, we announced our fifth share repurchase program of up to \$200 million of our common shares.

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 our 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

Other than our former arrangements with QIAGEN Finance as discussed in Note 15 to the consolidated financial statements, 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, 2017, 2016 and 2015.

## Contractual Obligations

As of December 31, 2017, our future contractual cash obligations are as follows:

Contractual Obligations	Payments Due by Period						
	Total	2018	2019	2020	2021	2022	Thereafter
Long-term deb <sup>(1)</sup>	\$ 1,865,393	\$ 24,426	\$ 510,267	\$ 20,485	\$ 330,029	\$ 493,910	\$ 486,276
Purchase obligations	99,489	65,073	22,556	10,472	943	11	434
Operating leases	64,877	18,483	16,011	11,762	8,457	6,126	4,038
License and royalty payments <sup>(2)</sup>	55,092	12,907	11,858	11,558	8,860	6,161	3,748
Capital lease obligations <sup>(3)</sup>	1,470	1,411	45	14	—	—	—
Total contractual cash obligations	\$ 2,086,321	\$ 122,300	\$ 560,737	\$ 54,291	\$ 348,289	\$ 506,208	\$ 494,496

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

(2) As of December 31, 2017, \$11.8 million and \$35.3 million are included in accrued and other current liabilities and other long-term liabilities, respectively.

(3) Includes future cash payments, including interest, due under capital lease arrangements.

In addition to the above and pursuant to purchase agreements for several of our recent acquisitions, we could be required to make additional contingent cash payments totaling up to \$18.5 million based on the achievement of certain revenue and operating results milestones as follows: \$11.5 million in 2018 and \$7.0 million, payable in any 12-month period from now until 2029 based on the accomplishment of certain revenue targets, the launch of certain products or the grant of certain patent rights. As of December 31, 2017, we have accrued \$11.5 million for these contingent payments which is included in accrued and other current liabilities.

Liabilities associated with uncertain tax positions, including interest and penalties, are currently estimated at \$47.1 million as of December 31, 2017 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.

## Dividend

QIAGEN has not paid a cash dividend since its inception and does not intend to pay any dividends in the foreseeable future. We intend to retain any earnings for the development of our business.

## Credit Rating

QIAGEN is currently not rated by any credit rating agency.