Financial Report

2016

Sample to Insight

QIAGEN

Key Figures

QIAGEN Key Figures — As of December 31

$ 1,000 except per share data	2016	2015	2014	2013	2012
Results					
Net sales	1,337,991	1,280,986	1,344,777	1,301,984	1,254,456
Operating income	98,827	179,498	161,693	57,477	165,810
Net income*	80,404	130,148	116,365	64,624	126,642
Basic earnings per share (EPS)*	0.34	0.56	0.50	0.28	0.54
Diluted earnings per share (EPS)*	0.34	0.55	0.48	0.27	0.52
Number of shares (in thousands)					
Weighted average number of common shares used to compute basic net income per common share	234,800	233,483	232,644	234,000	235,582
Weighted average number of common shares used to compute diluted net income per common share	238,993	238,647	242,806	243,400	242,020
Cash flow					
Cash flow from operations	341,602	317,497	287,965	258,957	244,880
Capital expenditures for property, plant and equipment	74,536	97,778	86,591	84,468	101,996
Free cash flow (cash flow from operations less capital expenditures)	267,066	219,719	201,374	174,489	142,884
Balance sheet					
Total assets	4,308,194	4,179,117	4,454,372	4,088,392	4,087,631
Cash and cash equivalents	439,180	290,011	392,667	330,303	394,037
Total long-term liabilities, including current portion	1,393,668	1,343,616	1,490,114	1,024,389	1,094,934
Total equity	2,607,096	2,568,070	2,664,876	2,731,891	2,730,979

* Attributable to the owners of QIAGEN N.V.

Adjusted Net Sales

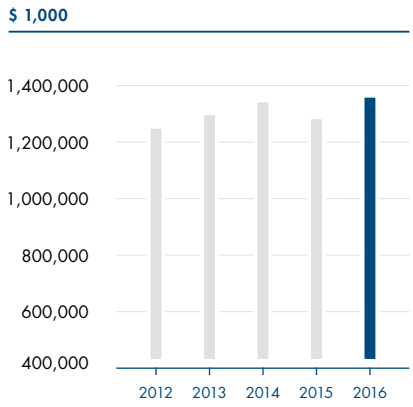
Adjusted net sales in 2014 and 2015 include deferred revenue contributions from certain bioinformatics acquisitions under purchase accounting rules.

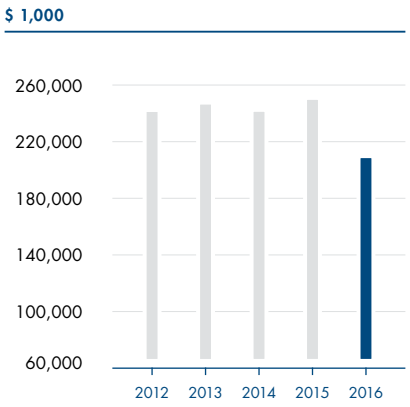
Adjusted Net Income

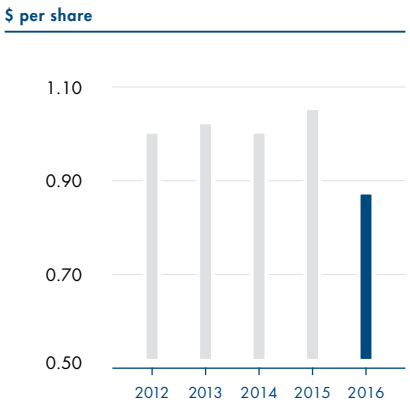
Excluding acquisition, business integration, restructuring and related charges as well as amortization of acquired intellectual property. Results for 2016 include a restructuring charge of $57 million.

Adjusted Diluted Earnings per Share

Excluding acquisition, business integration, restructuring and related charges as well as amortization of acquired intellectual property. Results for 2016 include a restructuring charge of $0.24 per share.







This document contains detailed financial information about QIAGEN prepared under generally accepted accounting standards in the U.S. (U.S. GAAP) and included in our Form 20-F annual report filed with the U.S. Securities and Exchange Commission. QIAGEN also publishes an annual report under IFRS accounting standards, which is available on our website at www.QIAGEN.com.

As the innovative market and technology leader, QIAGEN creates Sample to Insight technologies that enable access to valuable molecular insights from any biological sample.

Our mission is to make improvements in life possible by enabling our customers to achieve outstanding success and breakthroughs in life sciences, applied testing, pharma and molecular diagnostics.

Our commitment to customers, patients, investors and other stakeholders drives our innovation and leadership in all areas where our Sample to Insight technologies are required. The exceptional talent, skill and passion of our employees are key to QIAGEN's excellence, success and value.

PROFESSOR DR. MANFRED KAROBATH
Chairman of the Supervisory Board

To our Shareholders

The members of the Supervisory Board wish to thank all QIAGEN employees and members of the Executive Committee for the progress made during 2016 toward achieving QIAGEN's vision of making improvements in life possible. We would also like to thank our shareholders, customers, business partners and other stakeholders for honoring QIAGEN with their continued collaboration and trust.

Review of 2016 performance

A key role of the Supervisory Board is to monitor the conduct and progress of QIAGEN's business on a regular basis, and this was done during 2016 with detailed written and oral reports from the Managing Directors, members of the Executive Committee and other senior leaders. QIAGEN's performance during the year showed the transformation undertaken in the last few years is building momentum thanks to the power of our Sample to Insight portfolio and are moving ahead on a new growth trajectory, and this has strengthened QIAGEN's position as a global leader in molecular testing. All customer classes and regions grew in 2016, led by expansion in Molecular Diagnostics, apart from the expected headwinds from lower U.S. HPV test sales. The Academia, Pharma and Applied Testing customer classes also produced organic growth that was augmented by the acquisitions of MO BIO and Exiqon, which further differentiate our Sample to Insight portfolio. Among the 2016 highlights, sales of the QuantiFERON-TB test for tuberculosis detection reached a new 25% CER (constant exchange rates) growth pace, and the fourth-generation QuantiFERON-TB Gold Plus was submitted for U.S. approval. The GeneReader NGS System received a positive reception from labs seeking a cost-effective, end-to-end solution for next-generation sequencing, and placements exceeded our target for 10% of the market for new benchtop sequencers in oncology applications. The QIAsymphony system also exceeded the 2016 goal of 1,750 cumulative placements, with double-digit sales growth in consumables. In Personalized Healthcare, QIAGEN signed additional co-development agreements for companion diagnostics, surpassing the milestone of 20 master collaboration agreements with pharma companies. QIAGEN's differentiated technologies in cutting-edge areas such as liquid biopsy, digital NGS and the microbiome also generated robust growth in 2016. The Supervisory Board believes QIAGEN is well-positioned to make significant progress in 2017 and deliver on goals for higher sales and adjusted earnings at constant exchange rates, especially as QIAGEN moves beyond the material headwinds that weighed on the overall sales performance in recent years from declining sales of the franchise for cervical cancer screening (HPV test) in the United States.

Composition of the Supervisory Board and Managing Board

During the course of 2016, the composition and leadership of the Supervisory Board changed, with seven members at the end of the year under the leadership of Prof. Dr. Manfred Karobath, who was elected chairman of the Supervisory Board after the Annual General Meeting in June 2016. The composition of the Managing Board remained unchanged with two members (Chief Executive Officer Peer M. Schatz and Chief Financial Officer Roland Sackers).

As announced during 2015, Dr. Werner Brandt stepped down from the Supervisory Board after the Annual General Meeting in June 2016, and also relinquished his role as Chairman. Dr. Brandt, who has been a member of the Supervisory Board since 2007, cited business and personal commitments for this decision. The members of the Supervisory Board and Managing Board would like to thank Dr. Brandt for his many contributions to QIAGEN during his tenure that were based on his business acumen, professionalism, leadership and collaborative spirit, and wish him all the best in his future endeavors.

Prof. Dr. Ross Levine was elected by shareholders to the Supervisory Board at the Annual General Meeting of last year. Prof. Levine brings extensive scientific, medical and commercial expertise to our Supervisory Board. His professional roles include serving as the Director for the Center for Hematologic Malignancies and as the Laurence Joseph Dineen Chair in Leukemia Research, Human Oncology and Pathogenesis Program for the Leukemia Service at Memorial Sloan Kettering Cancer Center and as Professor of Medicine at Weill Cornell Medical College.

Furthermore, the Joint Meeting of the Managing Board and the Supervisory Board resolved to increase the number of Supervisory Board Members and therefore Dr. Håkan Björklund was appointed as a new Supervisory Board member in March 2017. Dr. Björklund brings an extensive international background in the life science industry to QIAGEN, in particular through his current role as Operating Executive at Avista Capital Partners, as well as through previous roles as CEO of the global pharmaceutical company Nycomed, Regional Director at Astra (now AstraZeneca) and President of Astra Draco. In addition to QIAGEN, he currently serves as Chairman of the Board of Directors of Swedish Orpham Biovitrum AB. Dr. Björklund earlier served as Chairman of the Board of Directors of Lundbeck A/S, and was also a Member of the Board of Directors of several international life science companies, including Alere, Coloplast and Danisco. Dr. Björklund has a Ph.D. in Neuroscience from Karolinska Institutet in Sweden.

All current members of the Supervisory Board are expected to stand for election at the Annual General Meeting scheduled for June 21, 2017.

The target profile of the Supervisory Board can be found on QIAGEN's website, and the current composition fully complies with this profile. Further information on the individual members of the Supervisory Board is set forth in the Corporate Governance and Compensation overview.

QIAGEN has a long-standing commitment to developing a diverse leadership team, including the Managing Board and the Supervisory Board, with a broad range of experience, skills and capabilities. In nominating candidates for these boards, QIAGEN supports the trend toward higher participation of women. QIAGEN is committed to expanding diversity while pursuing individuals for these boards with a unique blend of scientific and commercial expertise and experience that will contribute to the future success of its business. Management development programs support the career advancement of leaders regardless of gender and other factors. As a result, a number of women are in key leadership roles, particularly in leading commercial and operational positions around the world. In line with this long-standing commitment, the Supervisory Board will take the aim for a diverse leadership team into account in the future when proposing members for election or re-election to its Board without compromising QIAGEN's commitment to hiring the best individuals for positions without any discrimination. The current governance structure has led to the size of the Managing Board of two members, so achieving a diversity goal as measured solely by a percentage of overall membership is difficult to achieve. At the same time, QIAGEN has significantly increased the diversity of its senior leadership team and will continue to do so in the future.

Principal topics discussed by the Supervisory Board

As empowered by the Dutch Corporate Governance Code, the Supervisory Board devoted considerable time during 2016 to discussing and assessing QIAGEN's corporate strategy, main risks and opportunities, and an annual assessment by the Managing Board of the design and effectiveness of internal risk management and control systems as well as any significant changes in them. In addition, the Supervisory Board discussed and reviewed the functioning of its committees and individual members, its current composition, competence, succession schedule and desired profile in various meetings and through written surveys.

The Supervisory Board met five times during the course of 2016 with regular attendance of the members of the Managing Board for certain agenda items. The Supervisory Board also met to review and discuss agenda items in the absence of the Managing Board members, such as performance and strategy as well as to discuss compensation matters. Information about the Supervisory Board members, including positions held on other boards, is included in the Corporate Governance and Compensation overview. All members of the Supervisory Board had adequate time available to give sufficient attention to the concerns of the company. The Supervisory Board came to the conclusion that it and the Managing Board were functioning properly.

Committees of the Supervisory Board

The Supervisory Board has established an Audit Committee (Chair Mr. Lawrence Rosen), a Compensation Committee (Chair Ms. Elizabeth Tallett), a Selection and Appointment Committee (Chair Prof. Dr. Karobath), and a Science and Technology Committee (Chair Dr. Metin Colpan) from among its members. The Supervisory Board reserves the right to establish other committees

as deemed beneficial, and has approved charters under which each of these committees operates (charters are available on our website at www.QIAGEN.com).

Further detailed information on the composition of the Supervisory Board and its committees, the number of committee meetings held in 2016 and the main topics of discussion, the independence of its members and their remuneration, as well as other information on the Supervisory Board, can be found in the Corporate Governance and Compensation overview, which is an integral part of this Annual Report.

Through its Compensation Committee, the Supervisory Board executed and monitored compliance with the Remuneration Policy approved at the Annual General Meeting held on June 25, 2014. Compensation of Managing Board members consists of a fixed salary and variable components. Variable compensation includes one-time and annual payments linked to business performance (bonuses) as well as long-term incentives, such as share-based compensation, and pension plans. The Remuneration Policy and the various aspects of compensation, including the detailed remuneration of individual Managing Board members, are described in the Remuneration Report, which is available on QIAGEN's website. Information on QIAGEN's activities was communicated by the Managing Board to the Supervisory Board through regular meetings and business reports.

Corporate Governance

All members of the Supervisory Board fulfill the independence criteria as defined by the Dutch Corporate Governance Code. The Supervisory Board follows the principle of increasing shareholder value as the members represent the interests of all stakeholders, including shareholders, and has always pursued the highest standards in Corporate Governance.

QIAGEN is committed to a corporate governance structure that best suits its business and stakeholders, and that complies with relevant rules and regulations. Since 1997, QIAGEN has endorsed the recommendations made in the report of the Netherlands Committee on Corporate Governance, which was replaced by the Dutch Corporate Governance Code effective January 1, 2004. The Dutch Code was last amended on December 8, 2016 and is applicable as from January 1, 2017. Our policy is to follow the guidelines of Good Practice of Corporate Governance as described in the Dutch Corporate Governance Code, although some minor deviations may result from the impact of factors such as legal requirements imposed on QIAGEN or industry standards.

QIAGEN is also subject to the rules regarding Corporate Governance set by NASDAQ, where its common shares have been listed since 1996. QIAGEN provides detailed disclosure in the Corporate Governance and Compensation overview regarding compliance with the Dutch Corporate Governance Code.

QIAGEN believes all of its operations are carried out in accordance with legal frameworks, including Dutch Corporate Law, U.S. laws and regulations, and the laws of the German capital market, in particular the Wertpapierhandelsgesetz.

QIAGEN's common shares are registered and traded in the U.S. on the NASDAQ Global Select Market and in Germany on the Frankfurt Stock Exchange in the Prime Standard segment. Shareholders in the U.S. and Europe hold the majority of common shares.

Financial statements and audits

In this Annual Report, the financial statements for 2016 are presented as prepared by the Managing Board, audited by KPMG (Independent Registered Public Accounting Firm). We examined the financial statements, the proposal for the use of the distributable profit, the consolidated financial statements and the management report. We have no objections, thus we concur with the results of the audit, and it has been approved by the Supervisory Board. In closing, the Supervisory Board would like to again thank all QIAGEN employees for their dedication and hard work during 2016.

Venlo, the Netherlands, March 2017

The Supervisory Board:

Professor Dr. Manfred Karobath
Chairman of the Supervisory Board

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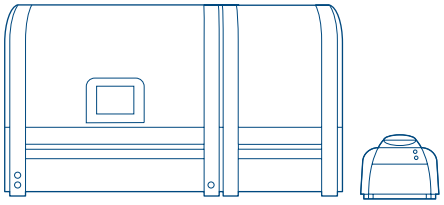
Overview

QIAGEN at a Glance

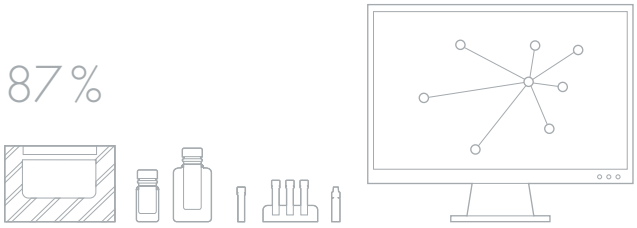
Product Categories Percentage share of 2016 net sales

13 %



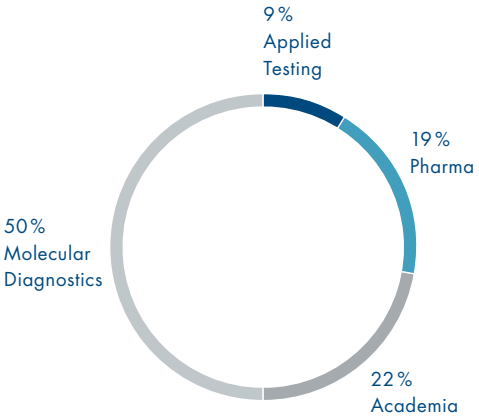
Instruments
are used with consumables, enabling customers to automate processes from the preparation of clinical samples to the delivery of valuable results.

87 %



Consumables and related products
are specialized kits that contain all necessary materials to support the use of sample and/or assay technologies as well as bioinformatics solutions for analysis, interpretation and reporting of biological data.

Customer Classes Percentage share of 2016 net sales



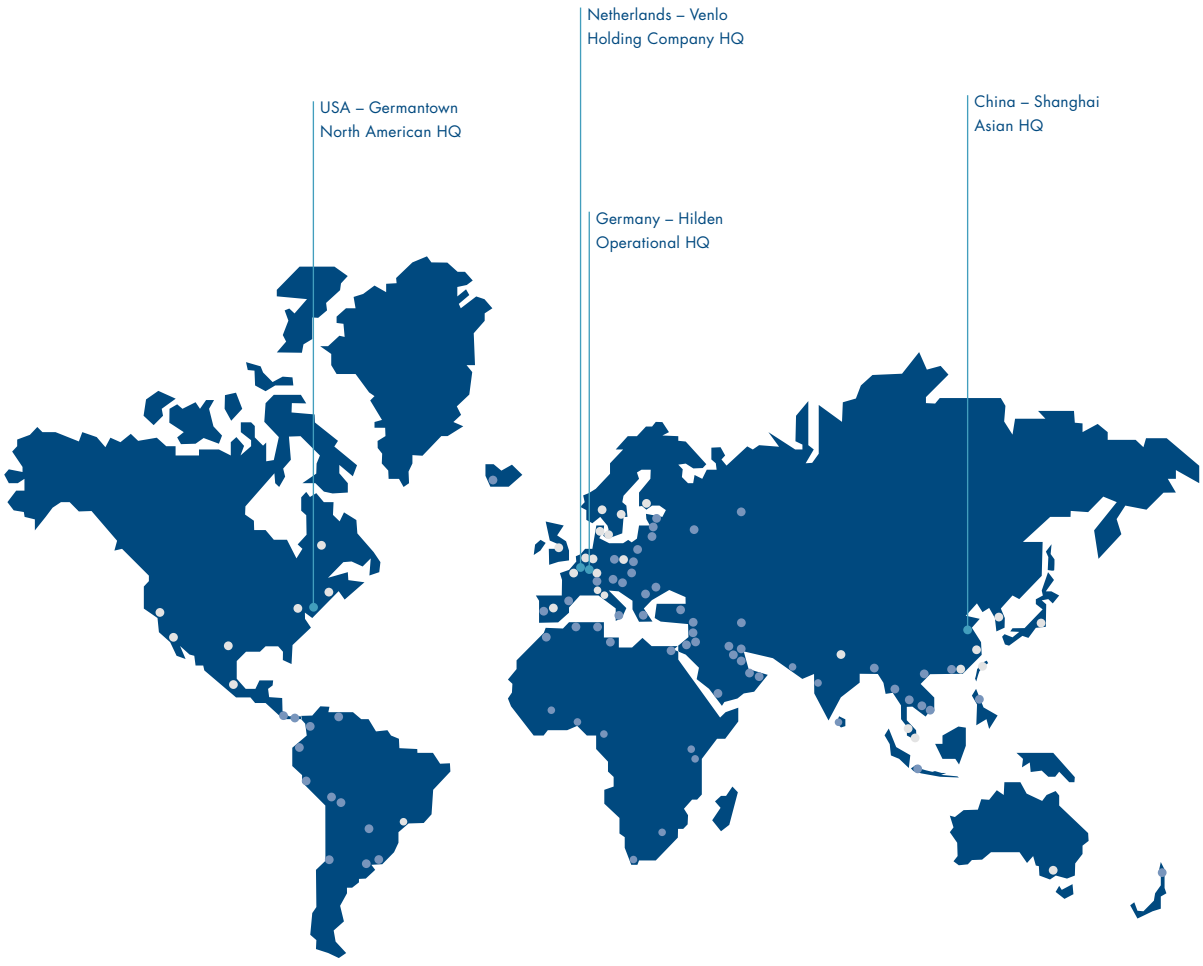
Molecular Diagnostics
Physicians, hospitals and healthcare providers use QIAGEN technologies to save lives and fight disease. Our products support disease prevention such as screening women for risk of cervical cancer; profiling patients to pinpoint many diseases; personalized healthcare to guide treatment decisions; and point-of-need testing to provide on-site diagnosis.

Academia
Researchers at life science laboratories around the world depend on QIAGEN to advance our understanding of the molecular basis of life. Customers include universities and research institutes.

Applied Testing
Professionals in fields such as human identification and forensics, food testing and veterinary medicine use QIAGEN technologies in commercial applications beyond human healthcare. Our products are helping to solve crimes, secure food supplies and detect potentially devastating livestock diseases.

Pharma
Scientists in the pharmaceutical and biotechnology industries look to QIAGEN to advance gene-based drug discovery and development, supporting the creation of new medical breakthroughs.

QIAGEN Around the World



For a full list of our subsidiaries and distributors, please visit www.QIAGEN.com/contact/

The Executive Committee

PEER M. SCHATZ
Chief Executive Officer

THIERRY BERNARD
Senior Vice President,
Molecular Diagnostics Business Area

DR. LAURA FURMANSKI
Senior Vice President,
Bioinformatics Business Area

DOUGLAS LIU
Senior Vice President,
Global Operations

MANUEL O. MÉNDEZ
Senior Vice President,
Global Commercial Operations

ROLAND SACKERS
Chief Financial Officer

DR. THOMAS SCHWEINS
Senior Vice President,
Life Science Business Area
and Human Resources

Peer M. Schatz Joined QIAGEN in 1993, and has been Chief Executive Officer since January 1, 2004. He was Chief Financial Officer between 1993 and 2003 and became a member of the Managing Board in 1998. Mr. Schatz was previously a partner in a private management buyout group in Switzerland, worked in finance and systems positions at Sandoz AG and Computerland, and participated in the founding of start-up companies in the computer and software trading industry in Europe and the United States. Mr. Schatz graduated from the University of St. Gallen, Switzerland, with a Master's degree in Finance in 1989 and obtained an M.B.A. in Finance from the University of Chicago Graduate School of Business in 1991. Mr. Schatz served as a member of the German Corporate Governance Commission from 2002 to 2012. He is a board member of AdvaMedDx, a U.S. trade association that leads the effort to advance medical technology in order to achieve healthier lives and healthier economies around the world and ALDA (the Analytical, Life Science and Diagnostics Association), a trade association of developers and suppliers in these fields. He is also Managing Director of PS Capital Management GmbH.

Thierry Bernard 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. 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 member of the Boards of Directors of three privately held U.S. companies, First Light Biosciences, HepatoChem and more recently, 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.

Dr. Laura Furmanski Joined QIAGEN in June 2014 as Senior Vice President, Bioinformatics Business Area. Dr. Furmanski leads QIAGEN's rapidly growing presence in bioinformatics, a foundation of the strategy to address the expanding needs of users in all customer classes to transform biological samples into valuable molecular insights. She was previously a partner with McKinsey & Company, where she served in McKinsey's Silicon Valley office and led a broad range of projects involving med-tech and life science companies. She has a distinguished track record of working with experts in advanced medical fields, delivering revenue growth through scalable business models and bringing unique insights across the healthcare value chain. Furthermore, Dr. Furmanski is a board member of two non-profit organizations, ACMG Foundation and ReSurge International. Dr. Furmanski received a B.A. in Psychology from Stanford University, as well as a Ph.D. and an M.A. in Psychology, Cognitive Neuroscience from the University of California, Los Angeles.

Douglas Liu Joined QIAGEN in 2005 as Vice President Global Operations. He heads Manufacturing, Supply Chain Management, Quality Assurance, Quality Control and Regulatory and Clinical Affairs at QIAGEN. Mr. Liu has 30 years of experience in the life sciences industry and previously worked at Bayer Healthcare, Chiron, Abbott Labs and Washington University. He has worked in the United States and Europe with leadership roles in R & D, Manufacturing, Strategic Planning and Program Management. Mr. Liu has an M.B.A. from Boston University and a B.S. from the University of Illinois, Urbana. He is active in supporting business development and is Chairman of BioHealth Innovation, Inc., a public private partnership focusing on developing the life science industry as well as being a member of the Maryland Governor's Life Science Board.

Manuel O. Méndez Joined QIAGEN in October 2014 as Senior Vice President, Global Commercial Operations, leading sales and marketing worldwide. Mr. Méndez has 25 years of experience in diagnostics and life sciences, most recently as Executive Vice President Americas for bioMérieux from 2010 – 2014. Previously he served in sales, marketing and general management roles with Abbott Laboratories, Thermo Fisher Scientific and OraSure Technologies – with leadership positions in the United States, Latin America, Europe and Asian markets. He is on the advisory board of 908 Devices, a maker of point-of-need chemical analyzers. Mr. Méndez received a B.S. in Biomedical Engineering from Boston University and an M.B.A. from Northwestern University Kellogg School of Management.

Roland Sackers 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 Master Degree in Business Administration (Diplom-Kaufmann) from the University of Münster, Germany. 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 is also a non-executive director and chair of the audit committee of Immunodiagnostic Systems Holding PLC (IDS), a leading producer of immunological tests for research and diagnostic applications publicly listed in the United Kingdom.

Dr. Thomas Schweins Joined QIAGEN in 2004 as Vice President Corporate Strategy and was appointed Vice President Marketing & Strategy in 2005, where he was deeply involved in managing the global business toward Life Science customers. In late 2011, Dr. Schweins has assumed responsibility for Human Resources, and reassumed the role involving the Life Science Business Area in early 2017. Dr. Schweins came to QIAGEN from The Boston Consulting Group. He previously worked as Technology Manager, and later as an Assistant to the Management Board at Hoechst/Aventis. Dr. Schweins earned an M.Sc. Degree in Biochemistry from the University of Hanover. He obtained his Ph.D. at the Max Planck Society and received an M.Sc. from the University of Southern California in Los Angeles, where he studied Business Administration and Chemistry.

Common Shares

QIAGEN shares overcame a price drop in early 2016 to end the year up modestly from 2015. We thank shareholders for their support of QIAGEN's strategic initiatives to accelerate growth and profitability by investing in a differentiated portfolio of Sample to Insight solutions for molecular testing. Our senior executives and Investor Relations team are recognized for proactive and transparent communications with the financial community. In 2016 QIAGEN marked 20 years as a public company, and since the IPO our market capitalization has grown from $ 185 million to well over $ 6 billion.

Market Environment

Stock markets declined substantially in early 2016, then recovered to finish the year up moderately from 2015. Steady but modest macro-economic growth continued in developed and emerging markets, supported by low interest rates and generally accommodative policies. Equity markets also were influenced by political events in the United States and Europe, divergent monetary policies, a recovery in world oil prices, and investor uncertainties.

As benchmarks, the S&P 500 index in the United States was up 10 % at year-end 2016, while Germany's DAX index of the country's 30 largest companies advanced nearly 5 % during the year. The TecDAX in Germany, of which QIAGEN is a member, rose only 1 % for the year.

The molecular diagnostics and life science tools segment continued to grow in 2016. Brisk expansion of technologies such as next-generation sequencing, liquid biopsies, epigenetics and metagenomics helped drive the market, while growth continued in molecular diagnostics, particularly for infectious disease detection and precision medicine in oncology. Government funding trends for academic research were cautious, while healthcare faced uncertainty in reimbursement and government policies. QIAGEN delivered growth in adjusted net sales in 2016, in dollar terms and at constant exchange rates, accelerating during the second half of the year. Excluding a restructuring charge in the fourth quarter of 2016 to implement targeted initiatives to improve efficiency and profitability while maintaining the faster sales growth, adjusted earnings improved in line with adjusted net sales growth. QIAGEN sales grew across all regions and customer classes in 2016, led by instrument and consumable sales in Molecular Diagnostics, while organic growth in sales to Life Sciences customers was augmented by acquisitions in metagenomics

and RNA analysis. QIAGEN continues to invest in strategic catalysts, allocating resources to sustain sales growth while improving profitability, enhancing shareholder value and maintaining financial flexibility.

Listings in the U.S. and Europe

QIAGEN's common shares have been registered and traded in the United States since 1996 on the NASDAQ Global Select Market (NASDAQ National Market prior to July 2006) and in Germany since 1997 on the Frankfurt Stock Exchange (and the Prime Standard segment since its launch in 2003). Dual listing on NASDAQ and the Frankfurt Stock Exchange offers advantages for QIAGEN, our shareholders and employees since dual listing increases the potential market opportunity and increases liquidity for our shares. Unlike American Depositary Receipts (ADRs), QIAGEN's shares provide equal corporate rights for all shareholders and can be traded on either exchange, in U.S. dollars or euros.

[1] **United States**

Market	NASDAQ
Segment	NASDAQ Global Select Market
Ticker	QGEN
ISIN	NL0012169213

[2] **Germany**

Market	Frankfurt Stock Exchange
Segment	Prime Standard
Ticker	QIA
WKN	A2D KCH

[3] **Capitalization Dec. 31, 2016**

Market capitalization	$6,572 billion
Shares outstanding (in thousands)	234,561
Free float	94%

Share Price and Liquidity

QIAGEN's common share price gained modestly in 2016, climbing 6% in euros to €26.68 on the Frankfurt Stock Exchange and ending the year 1% higher in U.S. dollars at $28.02 on NASDAQ. Our common shares continued to offer high liquidity during 2016, with average daily trading volume of approximately 1.4 million shares (1.0 million on NASDAQ and other U.S. trading venues, and 0.4 million on the Frankfurt Stock Exchange (XETRA) and other German exchanges). QIAGEN continued its commitment to disciplined capital allocation, announcing initiatives to return $300 million in capital to shareholders by the end of 2017. QIAGEN completed a synthetic share repurchase in January 2017, returning $245 million to shareholders, and intends to return the balance of the commitment through open-market share repurchases in 2017. As of December 31, 2016, the free float, which affects weighting of QIAGEN shares in various indexes, was approximately 94%.

Index Membership

QIAGEN is one of the largest and most prominent constituents of Germany's TecDAX, a stock index that tracks the 30 largest German companies from the technology sector not included in the benchmark DAX index. As of December 31, 2016, QIAGEN was among the top three companies in the TecDAX based on market capitalization. QIAGEN is also a member of the U.S. large-cap Russell 1000 index and the broad market Russell 3000 index, which measures performance of the 3,000 largest companies in the U.S. The Russell 1000 index is a subset of the Russell 3000 index and includes 1,000 of the largest securities based on a combination of their market capitalization and current index membership. Furthermore, QIAGEN shares are included in other U.S. and European stock market indexes.

Shareholder Structure

Shareholder Structure QIAGEN has a truly global investor base comprised of more than 335 identified institutional investors distributed around the world, including more than half in North America, about one-third in Europe and the remaining shares in the Asia-Pacific/Japan region. Members of the Managing Board and the Supervisory Board in total held approximately 2.5% of QIAGEN's outstanding common shares at the end of 2016.

Annual Shareholders' Meeting

At the 2016 Annual Shareholders' Meeting, shareholders voted in favor of all resolutions proposed by the Board of Directors, in many cases with majorities above 95% of shares present at the meeting. Shareholders present or represented at the meeting held on June 21, 2016, in Venlo, the Netherlands, held approximately 160.8 million shares, or 67% of the approximately 239.7 million issued shares of QIAGEN as of the record date for the meeting. Details of attendance and voting results from our Annual Shareholders' Meeting are available at www.QIAGEN.com.

Investor Relations and Engagement with Shareholders

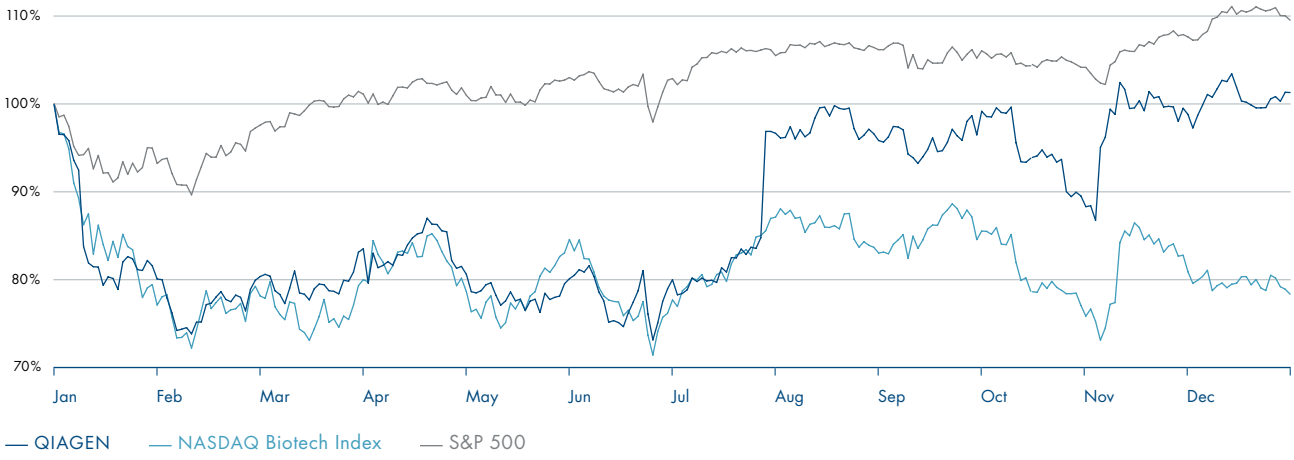
QIAGEN is committed to offering shareholders, analysts and communities around the world transparent, comprehensive and readily accessible information on our vision, mission and strategy, as well as performance and future prospects. The relationship with existing and potential investors continued at an intensive pace in 2016, with hundreds of individual discussions held during many roadshows and investor conferences around the world.

In November 2016, QIAGEN held a major investor event in New York, with more than 125 in person and online participants to hear from the QIAGEN management team about future growth prospects. Furthermore, many investors and analysts made use during 2016 of the opportunity to inform themselves about QIAGEN in personal meetings at our sites in Hilden, Germany; Germantown, Maryland; Redwood City, California; Singapore; and Shanghai, China.

Personal contact with private investors is an important element of our investor relations strategy. Apart from the Annual General Meeting and the Analyst & Investor Day, QIAGEN invited investors in September 2016 for the fourth annual Private Investor Day to its headquarters in Hilden, Germany. About 30 people attended the event, which included presentations on QIAGEN's global activities along with tours of the production and R&D areas, and offered shareholders an opportunity to gain more profound insights into QIAGEN.

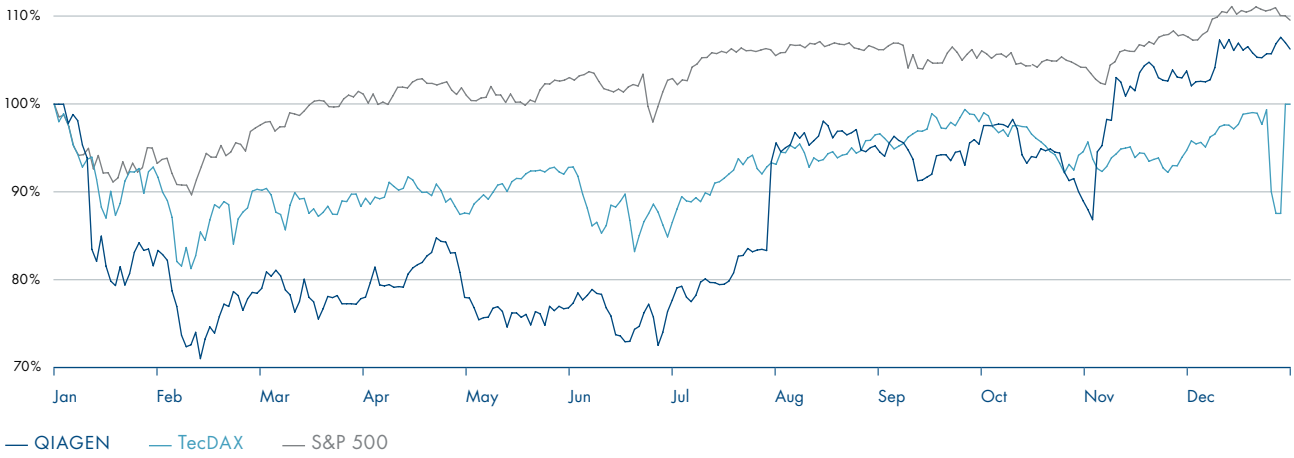
Approximately 26 analysts from international brokerages followed QIAGEN in 2016, with analysts based in the United States, France, Germany and the United Kingdom. In 2016, these efforts to address the needs of the financial community were repeatedly recognized by DIRK (the association for Investor Relations in Germany) and Extel as QIAGEN ranked among the top companies and IR professionals among all TecDAX companies as well as companies in the European industry sector.

[4] **QIAGEN Share Price Development and Average Trading Volume – NASDAQ 2016**



	2016	2015
Year-end price	$28.02	$27.65
High	$28.84	$28.53
Low	$19.94	$22.11
Average daily trading volume (in million shares)	1.0	0.9

[5] **QIAGEN Share Price Development and Average Trading Volume – Frankfurt Stock Exchange (XETRA) 2016**



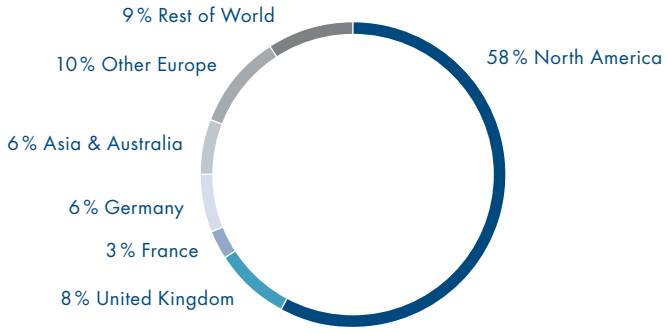
	2016	2015
Year-end price	€ 26.68	€ 25.12
High	€ 27.26	€ 26.05
Low	€ 17.76	€ 18.72
Average daily trading volume (in million shares)	0.4	0.4

[6] **Key Share Data**

As of December 31

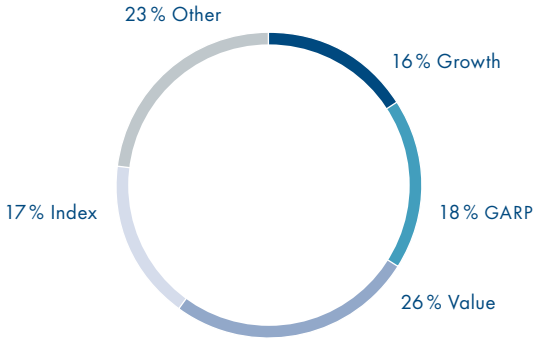
	2016	2015
Total equity (in $ thousands)	2,607,096	2,568,070
Issued shares (in thousands)	239,707	239,707
Outstanding shares at December 31 (in thousands)	234,561	233,006
Weighted-average number of common shares outstanding – basic (in thousands)	234,800	233,483
Weighted-average number of common shares outstanding – diluted (in thousands)	238,993	238,647
Year-end market capitalization (in $ million)	6,572	6,443
Year-end market capitalization (in € million)	6,258	5,852

[7] **2016 Shareholder Structure by Geography**



~88 % of total capital identified
Source: QIAGEN shareholder ID

[8] **2016 Shareholder Structure by Investor Type**



~88 % of total capital identified
Source: QIAGEN shareholder ID

Management Report

Management Report

Business and Operating Environment

QIAGEN is a global leader in Sample to Insight solutions that transform biological samples into valuable molecular insights. Our vision is to make improvements in life possible by enabling our customers in four broad classes – Molecular Diagnostics, Applied Testing, Pharma and Academia – to achieve outstanding success and breakthroughs using reliable and efficient solutions for molecular testing.

QIAGEN's Sample to Insight solutions integrate sample and assay technologies, bioinformatics and automation systems. Our solutions support more than 500,000 customers worldwide in generating insights into the molecular building blocks of life. Our proven solutions are providing answers in hospitals and laboratories worldwide, helping make sense of the increasing volumes and complexity of biological information.

Since the first sequencing of the human genome was completed in 2003, knowledge of the molecular basis of life, its mechanisms and diseases has been growing exponentially. In what observers call "the Century of Biology," dramatic acceleration in the speed of sequencing – and reduction in cost – is generating new discoveries and vast quantities of genomic data. This revolution in the life sciences is transforming healthcare and influencing many other areas of everyday life. QIAGEN's mission is to drive this ongoing wave of discoveries and the wide-ranging applications they are spawning.

QIAGEN 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 has grown to influence many areas of life, QIAGEN has expanded to serve the full spectrum of market needs. 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. QIAGEN's industry-leading bioinformatics solutions allows users to analyze and interpret data to provide relevant, actionable insights. Our automation platforms based on polymerase chain reaction (PCR), next-generation sequencing (NGS) and other technologies tie these together in seamless and cost-effective molecular testing workflows – from Sample to Insight.

Net sales of $1.34 billion in 2016 were comprised of consumable kits and other revenues (87% of sales) and automated systems and instruments (13% of sales). Approximately 50% of net sales in 2016 were in Molecular Diagnostics, and 50% went to Life Sciences customer classes in the Academia, Pharma and Applied Testing markets.

QIAGEN has grown by introducing innovative products and making strategic acquisitions that address the rapidly evolving needs of customers to transform biological samples into valuable molecular insights. We have funded our growth through internally generated funds, debt offerings and private and public sales of equity securities. QIAGEN has global shares that are listed on the NASDAQ 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.

Operating Environment in 2016

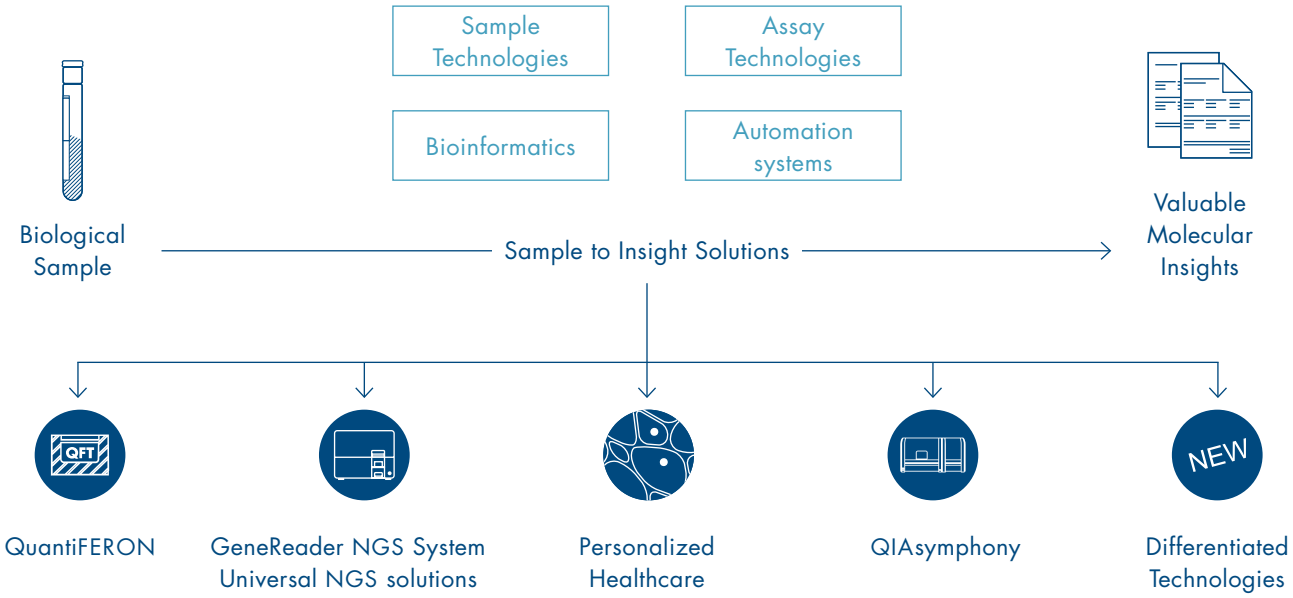
Economic Environment

Ongoing global economic growth, but with slower growth rates in developed and emerging markets, created opportunities and challenges in the business environment for QIAGEN during 2016. Real Gross Domestic Product (GDP) for the world grew approximately 2.3% in 2016, down from the 2.7% growth rates in 2014 and 2015, according to World Bank estimates. Subdued economic growth affected the United States, the Euro zone area and Japan, as well as China and other faster-growing emerging markets, in 2016. Macroeconomic factors included uncertainties about policy directions in the United States and Europe; strengthening of the U.S. dollar (QIAGEN's reporting currency) against the Euro, Yuan and other currencies; weakness in global trade even with a partial recovery in prices of commodities such as crude oil; and slow growth in productivity and private investment.

Industry Environment

Molecular diagnostics in healthcare and genomic testing in the life sciences are disseminating around the world, and the secular growth trend continued in 2016 amid mixed influences in the economy and specific market segments. Technologies such as next-generation sequencing (NGS) and polymerase chain reaction (PCR) are producing a wave of discoveries and new applications in medicine and other fields. As genomic knowledge expands, molecular testing is being applied increasingly to unlock valuable insights in clinical diagnostics, academic research, pharmaceutical R&D and other applications – leading to growth in sales of instruments, reagents and other consumables, and bioinformatics solutions. In 2016, the Molecular Diagnostics market continued to grow briskly, driven by innovative new technologies such as NGS and new tests for personalized medicine and infectious diseases, even as uncertainty continued in healthcare reimbursement systems. In Academia, spending on molecular technologies grew moderately, led by NGS applications, but fiscal issues continued to constrain research funding. The Pharma industry relies increasingly on advanced molecular technologies to guide drug discovery and development, driving growth, although consolidation and restructuring can limit R&D spending of individual companies. Applied Testing also continues to grow, led by human identification and forensics. The ongoing migration of genomic technologies from basic research into mainstream clinical and industry applications is a powerful driver for long-term growth of the industry, and the regulatory and reimbursement climates continue to evolve.

[1] **Sample to Insight solutions: Key highlight areas**



Recent Developments

QIAGEN has recently achieved a number of strategic milestones in serving customers and growing our business.

Leadership in differentiated core technologies continuing to drive growth:

- Building on our long-standing core strength in sample technologies, which laboratories around the world rely on to obtain highest-quality DNA and RNA for molecular testing, QIAGEN continued to expand our offerings in 2016 with differentiated solutions for the front-end challenges of customers. QIAGEN technologies process an estimated 50,000 biological samples a day. Our strategic focus is on rapidly growing areas of research and clinical application.

- QIAGEN expanded our leadership in "liquid biopsies," solutions that unlock molecular insights from blood or other fluids as non-invasive alternatives to surgical biopsies. Our technologies for isolation and stabilization of nucleic acids are used in an estimated 80% of liquid biopsy testing. In 2016, we continued to introduce cutting-edge technologies to handle the sample and library preparation challenges.

- QIAGEN also launched the first Sample to Insight NGS solution for analyzing either liquid biopsies or formalin-fixed, paraffin-embedded (FFPE) tissue samples in clinical cancer research, a complete workflow using the GeneReader NGS System and our Actionable Insights Tumor Panel and our unique and new QIAGEN Clinical Insights bioinformatics solution.

- QIAGEN delivered brisk growth from the industry's broadest Sample to Insight portfolio for research on the microbiome and metagenomics, the study of microbial interactions with the environment and humans. Following the 2015 acquisition

of MO BIO Laboratories, QIAGEN sample technologies are the starting point for the majority of these studies. In 2016 we integrated front-end kits with specialized assays and bioinformatics to provide complete Sample to Insight solutions.

- Acquisition of the Danish company Exiqon A/S in 2016 added to QIAGEN's portfolio of solutions to unlock insights from RNA in the fight against cancer and other diseases. Integrating the Exiqon solutions gives QIAGEN a leading position in the market for non-coding RNA (ncRNA) analysis in epigenetic research, with future potential to expand into clinical diagnostics.

- QIAGEN further expanded our leadership in solutions for single-cell analysis, which looks at individual cells and their heterogeneity to research the pathways of disease or to monitor patient progress, in fields such as oncology, immunology, neurobiology and stem-cell biology. In 2016, we launched QIAscout, a compact instrument enabling researchers to efficiently select and isolate viable single cells for analysis with NGS, PCR or other methods, as well as adding novel single-cell sample kits.

QuantiFERON-TB Gold growing rapidly as world focuses on tuberculosis control:

- QIAGEN is aiding the global fight against tuberculosis (TB), an infectious disease that kills about 1.8 million people annually, with our QuantiFERON-TB Gold and QuantiFERON-TB Gold Plus tests, the most accurate assays for detecting infection. Screening for latent TB in high-risk patient populations, an asymptomatic phase of the infection that can lie dormant for years and then "reactivate" as active, contagious TB, is increasingly recognized as a key component in controlling the disease.

- Our novel technology, delivering reliable results with the third-generation QuantiFERON-TB Gold (QFT) and fourth-generation QuantiFERON-TB Gold Plus (QFT-Plus), has become the latent TB screening technique of choice around the world. The efficient, laboratory-based tests are displacing the less accurate, century-old tuberculin skin test, and sales surpassed $ 140 million in 2016.

- QuantiFERON-TB Gold gained momentum in 2016 from key clinical guidelines for TB control. The U.S. Preventive Services Task Force recommended that primary care clinicians screen adult patients at high risk for latent TB – and cited QFT as a test proven to be reliable. A separate task force, backed by the U.S. Centers for Disease Control and Prevention (CDC) and two professional societies, updated evidence-based guidelines to broaden the preference for modern blood-based TB tests such as QFT over the century-year-old tuberculin skin test. It also broadened the groups to be screened for TB infection. These guidelines were endorsed by the European Respiratory Society.

- QuantiFERON-TB Gold-Plus was submitted to the U.S. Food and Drug Administration in late 2016 for pre-market approval. QFT-Plus has been launched in more than 60 countries following European CE-IVD clearance in late 2014. The new test, which adds proprietary CD8 T-cell technology and other enhancements to our market-leading test, also gained important support in the global TB control community. The World Health Organization (WHO) 2016 annual report on TB cited early clinical results on QFT-Plus indicating its ability to measure CD8 T-cell response may be able to identify patients at greater risk of progression to active TB.

Next-generation sequencing solutions extending QIAGEN's reach:

- Our GeneReader NGS System, the first complete Sample to Insight next-generation sequencing solution designed for any laboratory to deliver actionable results, has been well received in early commercialization since its late-2015 launch. GeneReader NGS adoption is accelerating, achieving our goal of 55–60 placements by year-end 2016, more than a 10% share of the estimated global annual market for new placements of benchtop sequencers in oncology applications. The system is the world's first truly end-to-end NGS workflow from primary sample to a final report – providing a

simpler, more cost-effective way for laboratories to take advantage of NGS technology and improve outcomes.

- QIAGEN has initiated the roll out of a deep pipeline of enhancements to the GeneReader NGS System, adding value for basic and translational research labs. In 2016 these included adaptation of our Actionable Insights Tumor Panel for use with liquid biopsies, adding to FFPE tissue samples; an extensive package of quality control and verification data for setup and validation; a partnership to integrate the GeneReader NGS System with users' laboratory information management systems (LIMS); and the option of QIAsymphony SP for higher-throughput front-end automation.

- In November 2016, two months after a U.S. court issued a preliminary injunction restricting U.S. customers' access to the GeneReader NGS System while considering a competitor's lawsuit, QIAGEN announced relaunch of the workflow with new sequencing chemistry that avoids the patent at issue in the United States. The new chemistry was made available to select U.S. customers in an early-access phase starting December 1, 2016, and full commercialization is set for early 2017. In the rest of the world, GeneReader NGS System marketing has continued without interruption, and the new chemistry with enhanced performance will be rolled out in 2017.

- In 2017, QIAGEN expects to launch additional enhancements and new content to improve the utility, efficiency and cost effectiveness of the GeneReader NGS System. We plan to launch at least five new GeneRead QIAact panels, including in-depth breast and lung cancer panels as well as customized panels for specific customer needs. Enhancements to the Actionable Insights Tumor Panel (ATP), the first GeneRead QIAact panel, reduce turnaround time and increase the number of tissue or liquid biopsy samples analyzed. Proprietary Digital NGS technology in the new panels will detect additional mutation types such as large rearrangements, gene fusions, copy number variations (CNVs) and genomic insertions or deletions (InDels), in addition to current detection of single nucleotide polymorphisms (SNPs).

- As the leader in "universal" technologies for use with any sequencing system, QIAGEN continues to expand our portfolio. In 2016, we added to our line-up of liquid biopsy solutions with the launch of the QIAseq cfDNA All-in-One Kit, the first dedicated solution for use on any NGS platform that combines cell-free DNA extraction and library preparation for liquid biopsy analysis. QIAGEN pre-analytical solutions are used in an estimated 80% of all NGS reactions.

- Also in 2016, we launched a comprehensive portfolio of QIAseq NGS panels with our Digital NGS technology, enabling more accurate quantification and detection of DNA, RNA and miRNA across all next-generation sequencing platforms.

Leadership in Personalized Healthcare continuing its momentum:

- QIAGEN continues to roll out novel companion diagnostics that deliver actionable insights enabling treatment decisions based on patients' individual genomic information. In 2016, QIAGEN launched the new *ipsogen* CALR RGQ PCR Kit in Europe, a unique CE-IVD marked assay for use in blood cancers known as myeloproliferative neoplasms (MPN). As the latest addition to the *ipsogen* portfolio of assays for common and rare leukemia types, the test runs on QIAGEN's QIAsymphony RGQ platforms.

- Our Personalized Healthcare pipeline continues to expand through collaborations with pharmaceutical and biotech companies to develop and commercialize companion diagnostics paired with targeted drugs. In 2016, we reached a milestone of 20 master collaboration agreements with Pharma companies, each providing for multiple projects. We added partnerships in 2016 with Mirati Therapeutics, Inc., to commercialize a companion diagnostic for a targeted therapy in non-small cell lung cancer; with Daiichi Sankyo for multiple projects; and with an undisclosed partner in immuno-oncology. Most of the specific projects are unannounced at the request of the Pharma partners. As the world's leading independent developer of molecular technologies, QIAGEN is the industry's preferred partner for developing companion diagnostics.

- QIAGEN offers our collaborators in Personalized Healthcare access to multiple platforms, including QIAsymphony and the GeneReader NGS System and the multi-modal Modaplex system. These projects include development of single-target assays or multiplex panels, depending on specific needs and biomarkers involved for particular diseases and targeted therapies. In addition, some Personalized Healthcare tests provide predictive value for therapy or enable monitoring of individual patients' progress.

- In 2016, we entered a collaboration with Therawis Diagnostics GmbH to develop and commercialize predictive assays in oncology. An initial project is to commercialize an assay for PITX2 as a biomarker to predict effectiveness of anthracycline treatment in triple negative and other high-risk breast cancer patients, an area of high unmet need.

- QIAGEN also began a collaboration with HTG Molecular Diagnostics, Inc. (HTG), to create a complete NGS-based solution for developing of companion diagnostics with Pharma companies, with a focus on oncology. The agreement includes assay development, commercialization and manufacturing. QIAGEN also made a minority investment in HTG.

QIAsymphony delivering platform growth as content menu expands:

- QIAGEN achieved our 2016 goal of surpassing 1,750 cumulative placements of the flexible modular QIAsymphony platform, up from 1,500 at the end of 2015. The QIAsymphony platform offers customers Sample to Insight automation for medium-throughput molecular testing workflows. The larger installed base and expanding content menus drove our 2016 growth in consumables.

- In 2016, QIAGEN made the QIAsymphony SP instrument available as a front-end option for sample processing for the GeneReader NGS System, adding highly automated, higher throughput sample volumes and high flexibility to the world's first complete Sample to Insight solution for NGS. The NGS workflow now integrates seamlessly with QIAsymphony SP, enabling laboratories outside the United States to perform sample processing of different sample types simultaneously with continuous loading, random access and greater speed for demanding environments.

- To enhance the QIAsymphony platform's value to customers worldwide, QIAGEN continues to advance a pipeline of development projects for regulator-approved molecular diagnostics to run on the platform, as well as expanding our Applied Testing content.

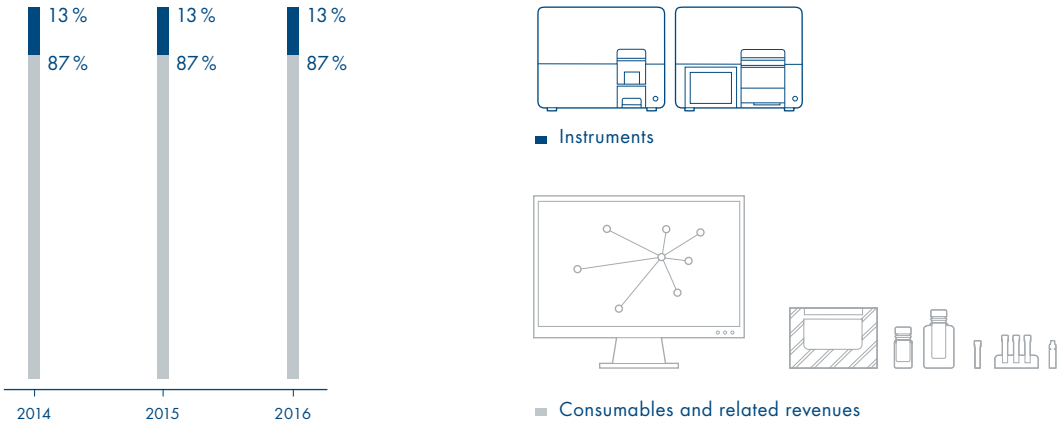
- The QIAsymphony platform serves all of our customer classes: Approximately 60% of current placements are in Molecular Diagnostics, and 40% are in the Life Sciences with Applied Testing, Pharma and Academia customers.

Industry-leading bioinformatics turning raw genomic data into valuable insights:

- QIAGEN's broad offering of content-enabled software, the leading portfolio of bioinformatics enabling users to gain valuable insights from sequencing data, continues to grow as a standalone franchise. In addition, it increasingly serves as a driver for Sample to Insight workflows across all platforms and applications. Our bioinformatics turn vast amounts of genomic data into actionable insights for customers, addressing a critical bottleneck in next-generation sequencing, especially for clinical research and diagnostics. We continue to roll out new solutions to meet specialized needs in research and healthcare and to integrate rich bioinformatics with QIAGEN's molecular testing workflows.

- In January 2017, QIAGEN acquired OmicSoft Corporation to expand our offering with solutions enabling scientists to visualize and mine large institutional and publicly available "omics" datasets, in addition to the expertly curated, literature-based datasets marketed by QIAGEN. The OmicSoft solutions meet a growing need in discovery and translational research to access and manage huge amounts of data on DNA, RNA and other variables generated by next-generation sequencing.

[2] **Net Sales by Product Categories**



- The unique RNA-seq Explorer Solution, a bioinformatics-driven approach to analysis and interpretation of RNA sequencing data from liquid biopsies, was introduced in 2016. RNA-seq Explorer integrates QIAGEN genomic knowledge bases with software solutions to generate clear insights for research into the detection, diagnosis and treatment of cancer.

- QIAGEN also enhanced our research workflow for hereditary and rare diseases, targeting difficult "diagnostic odyssey" cases with capabilities using liquid biopsies for non-invasive prenatal testing (NIPT) and cancer biomarker discovery.

- In 2016, we partnered with lab informatics company Genohm to empower GeneReader NGS System users with seamless data management by integrating our genomic workflow with their laboratory information management systems (LIMS). GeneRead Link, a middleware co-developed by the two companies, provides full connectivity for GeneReader NGS workflows with the leading LIMS systems.

- QIAGEN pursues collaborations and linkages across the genomics and bioinformatics industry to offer users the richest access possible to insights for research and diagnostics. In 2016, we offered our Hereditary Disease Solution customers a plugin to implement the Broad Institute's GATK best practices, the gold standard for variant calling, as part of the QIAGEN Biomedical Genomics Workbench software. For microbiome researchers, we partnered with CosmosID, a leading genomic big data company, in the launch of a metagenomics analysis plug-in for the QIAGEN Microbial Genomics Pro Suite and CLC Genomics Workbench.

- In 2016, we announced collaborations to combine our industry-leading genome analysis applications with hardware solutions from tech leaders Intel and BioTeam, aiming to

create infrastructure solutions making population-scale genomic analysis feasible for more researchers. Both projects are in development for use in managing and interpreting the massive data from NGS research.

Targeted actions improving efficiency and increasing returns to shareholders

- In 2016, QIAGEN announced initiatives to return $300 million in capital to shareholders by the end of 2017. In addition, we announced a series of targeted restructuring actions to improve efficiency and profitability, while supporting sales momentum, after a period of investment to support QIAGEN's transformation as a molecular testing leader.

- The commitment to return $300 million in cash to QIAGEN shareholders included a synthetic share repurchase, which was completed in January 2017. This transaction returned about $244 million to shareholders through a combination of a direct capital repayment with a reverse stock split. QIAGEN intends to return the balance of the $300 million commitment through open-market share repurchases during 2017.

- Restructuring actions initiated in the fourth quarter of 2016 include closing the site in Valencia, California, and spinning off certain activities in Hombrechtikon, Switzerland; expanding the use of shared service centers and global centers of excellence to consolidate activities; streamlining selected organizational structures to reduce complexity; realigning roles of global and regional marketing teams; and optimizing sales channels to better engage with customers, including greater use of digital technologies. A pre-tax restructuring charge of $79.1 million ($0.24 per share after taxes), including approximately $42.4 million of non-cash items, was recorded in the fourth quarter of 2016. Further pre-tax charges of approximately $10 million (or about $0.03 per share after taxes) are expected during 2017.

Products

QIAGEN leverages our leadership in Sample to Insight solutions for molecular testing across a wide range of applications and customer classes. We provide more than 500 core consumable products (sample and assay "kits"), as well as instruments that automate the use of these products. Our bioinformatics solutions connect laboratory workflows and process extensive amounts of genomic data, reporting relevant insights to enable scientists or clinicians to decide on further action.

QIAGEN's diverse revenue streams can be seen in two main categories: consumables and related revenue, and automation platforms and instruments. [2]

Consumables and related revenues

Consumable products, accounting for approximately 79%–80% of net sales, typically include sample technologies to extract and purify molecules of interest from biological samples and assay technologies that make the information in these genomic molecules available for analysis and interpretation. To maximize customer convenience and reduce user error, these kits contain all necessary reagents and a manual of protocols and background information. Reliability, standardization, ease of use and cost-effectiveness are keys to the success of molecular testing products.

QIAGEN's differentiated sample technologies ensure that each biological sample is processed in a highly reproducible, standardized method with the highest quality. A broad range of kits support applications such as plasmid DNA purification, RNA purification and stabilization, genomic and viral nucleic acid purification, DNA cleanup after PCR and sequencing, target enrichment, and library preparation for sequencing. For example, in 2016 we introduced several innovative sample and library preparation kits adding to our global leadership in solutions for minimally-invasive liquid biopsies, and we expanded our portfolio of solutions for processing difficult samples in research into the microbiome and metagenomics.

Our assay technology solutions contain all the needed reagents to enable customers to target molecules of interest for detection on platforms supporting PCR, NGS or multimodal analysis. Each assay kit is sufficient to support a number of applications, varying from a single application to kits containing more than 1,000 applications each. Applications include open, general-purpose PCR reagents, as well as kits for the detection of specific viral or bacterial pathogens and parasites in humans and animals, pharmacogenomic testing and genotyping. In PCR, examples are our *therascreen* family of companion diagnostics, *artus* line for profiling infectious diseases, and *investigator* assays for forensics and human identification and our GeneGlobe portal gives customers access to a vast portfolio of predesigned assays. A growing portfolio of NGS gene panels enable sequencing to identify DNA or RNA variants relevant to clinical or research targets in cancer or other diseases. In 2016 we launched a comprehensive portfolio of universal QIAseq kits with proprietary Digital NGS technology to run on any NGS platform, and in early 2017 we added GeneRead QIAact lung cancer and breast cancer panels to our growing menu of molecular content designed for the GeneReader NGS System.

Related revenues, accounting for approximately 7%–8% of our net sales, include bioinformatics solutions, sold as free-standing software or cloud-based solutions and also integrated into QIAGEN consumables and instruments for seamless Sample to Insight workflows. Examples of our bioinformatics solutions:

Ingenuity Variant Analysis, a powerful cloud-based platform tapping into the QIAGEN Knowledge Base, interprets data from NGS analysis to efficiently filter genetic variants and interpret links to diseases.

QIAGEN Clinical Insight, a unique evidence-based decision support solution, draws on the QIAGEN Knowledge Base to deliver clinically relevant insights from complex genomic variants identified in NGS.

CLC Genomics Workbench incorporates cutting-edge technology and algorithms to overcome challenges face by scientists in analyzing and visualizing data from all major NGS platforms.

GeneGlobe, a web-based portal, enables researchers to search and select gene- and pathway-specific solutions from approximately 25 million pre-designed and custom PCR assay kits, NGS assay panels and other products.

Related revenues also include royalties, milestone payments from co-development agreements with pharmaceutical companies, payments from technology licenses and patent sales, and custom services, such as whole genome amplification services, DNA sequencing, and non-cGMP DNA production on a contract basis.

Automation platforms and instruments

Our instrumentation systems, contributing approximately 12%–13% of net sales together with related services and contracts, automate the use of consumables into efficient workflows for a broad range of laboratory needs. QIAGEN platforms are designed to carry our customers from Sample to Insight – handling and preparation of biological samples, analysis using sequencing technologies, and interpretation that delivers valuable insights. These instruments enable laboratories to perform reliable and reproducible processes, including nucleic acid sample preparation, assay setup, target detection, and interpretation of genomic information. Often several of these instruments are integrated into end-to-end workflows.

Among the automation platforms that contribute to QIAGEN's business:

QIAsymphony is an easy-to-use modular system that has launched a new era of integrated workflow and laboratory automation, making molecular testing more efficient and helping to disseminate standardized, clinically proven molecular diagnostics. Our fully integrated QIAsymphony RGQ, launched in 2010, includes three modules – QIAsymphony SP for sample preparation, QIAsymphony AS for assay setup, and our real-time PCR platform Rotor-Gene Q. The Rotor-Gene Q module, the world's first rotary real-time PCR

cycler system, makes sequences of DNA and RNA visible through amplification and quantifiable. In 2016, our installed base increased to more than 1,750 QIAsymphony systems worldwide, more than triple the number at the end of 2011. The platform offers many features to enhance workflows, such as continuous loading, random access and the ability to process an almost unlimited range of sample types. QIAsymphony has the broadest content menu in its category in Europe and other markets, and QIAGEN is developing more regulator-approved assays to add value for customers.

GeneReader NGS System, introduced in late 2015, is the first complete Sample to Insight next-generation sequencing (NGS) solution designed for any laboratory to deliver actionable results. This end-to-end platform provides a simpler, more cost-effective way for basic and translational research to take advantage of NGS technology and improve outcomes. The GeneReader workflow offers the flexibility of scalable batch sizes and continuous loading of multiple flow cells, and customers can create relevant reports using QIAGEN's proven gene panels and bioinformatics solutions. In 2016 we rolled out several expansions in the GeneReader system's capabilities, including use with non-invasive liquid biopsies in addition to tissue samples; sample and library preparation with either QIAcube or QIAsymphony SP as a front-end; Digital NGS technology for control of the analysis and reliable detection of extremely rare mutations; and integration with laboratory information management systems (LIMS).

Modaplex is a multimodal automation system integrating amplification, capillary electrophoresis and real-time qPCR quantification of multiple targets in a single reaction. This innovative platform allows up to 48 samples, including multiple targets and different types of assays, to run simultaneously in a single well.

QIAcube robotic workstations provide highly versatile solutions for automated sample processing, with novel technologies for purification of DNA, RNA and proteins. Seamless integration of sample prep frees up the time of laboratory staff, enabling laboratories to increase productivity and achieve standardized results in analysis using PCR or NGS. The QIAcube is available in a standard and high-throughput version.

EZ1 Advanced XL performs automated nucleic acid purification for many sample types in molecular diagnostics, human identity testing, forensics, biomedical research, and gene expression analysis.

QIAxcel replaces traditional slab-gel analysis, eliminating time-consuming nucleic acid separation methods in low- to high-throughput labs and offering unprecedented sensitivity and time-to-results for analysis of DNA fragments and RNA.

QIAscout, a small benchtop instrument that enables researchers to efficiently select and isolate viable single cells for analysis with NGS, PCR or other methods. QIAscout was launched in 2016.

PyroMark, a high-resolution detection platform with Pyrosequencing technology, enables real-time analysis and quantification of genetic mutations and DNA methylation patterns to identify variations, run multiplex analysis for genetic and pathogen detection, or conduct epigenetic research.

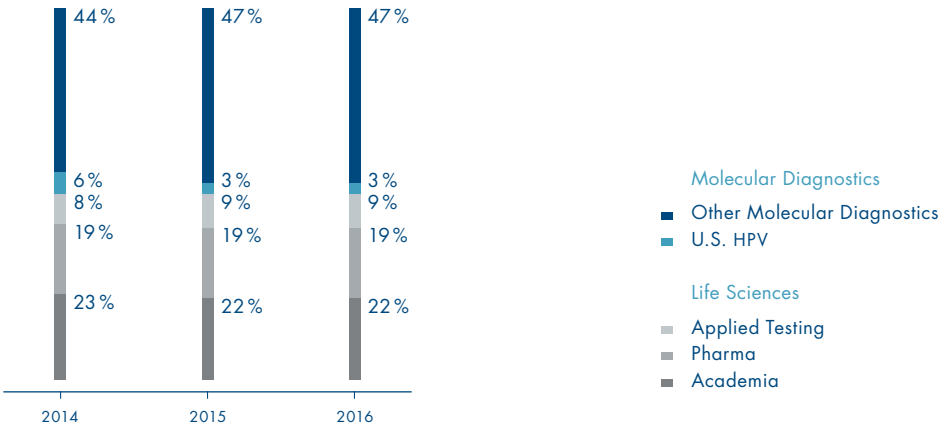
QIAgility is a compact benchtop instrument that enables rapid, high-precision PCR setup supporting almost all tube and plate formats, as well as Rotor-Discs for the Rotor-Gene Q.

ESEQuant portable, battery-operated instruments enable optical measurement for Point of Need molecular testing in healthcare and other applications, particularly in physician practices, emergency rooms, remote areas, and other settings with limited or delayed access to laboratories.

Customers

From the early days of the biotechnology revolution, QIAGEN believed that innovative technologies for the preparation of samples and the analysis of nucleic acids would play an in-

[3] **Net Sales by Customer Classes**



creasingly important role in cutting-edge biology – and that insights extracted from DNA and RNA would be increasingly valuable in research, industry and healthcare.

With a growing portfolio of innovative products for molecular testing, we have built deep customer relationships across the life science value chain. Discoveries often surface in universities and research institutes and are published, then find resources for development by pharmaceutical and biotech companies, and finally move into widespread commercial use in healthcare and other areas of life. We serve the needs of four major customer classes: [3]

- Molecular Diagnostics – healthcare providers engaged in patient care including hospitals, public health organizations, reference laboratories and physician practices
- 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 disease mechanisms and pathways, in some cases translating findings into drug targets or other products

Molecular Diagnostics

The ability of advanced diagnostic technologies to unlock molecular information for patients is changing the practice of medicine, creating a large and growing market for nucleic acid sample preparation, assay technologies and bioinformatics in clinical care. Dissemination of PCR and other amplification technologies has brought molecular diagnostics into routine use in healthcare around the world, and next-generation sequencing is rapidly disseminating, further transforming healthcare. Technologies for molecular diagnostics enable clinicians and labs to identify and profile microorganisms, cancer cells, bacteria and viruses by detecting their specific

nucleic acid sequences or characterizing newly discovered genomic sequences related to diseases. Commercial applications are multiplying as researchers identify new biological markers for disease and develop novel technologies to decipher these diagnostic clues.

The molecular diagnostics market generates total sales estimated by industry experts at more than $6 billion in 2016, including about $3–4 billion potentially addressable with QIAGEN's product portfolio. Molecular diagnostics is the most dynamic segment of the global *in vitro* diagnostics market and is growing at a compound annual rate estimated in the high single-digits or low double-digits. Given the advantages of precise genetic information over traditional tests, QIAGEN expects the healthcare market to continue to provide significant growth opportunities.

In QIAGEN's robustly growing Molecular Diagnostics business we focus on three priorities for fighting disease:

- Oncology – accurately diagnosing cancer, enabling prevention or early detection, and guiding selection of therapies with individualized molecular insights. QIAGEN offers a broad portfolio of companion diagnostic kits and panels to detect mutations of genes such as KRAS, EGFR, BRAF and others that influence the efficacy and safety of medicines. We also provide industry-leading tests used in screening women for human papillomavirus (HPV) to protect from cervical cancer.

- Infectious diseases – detecting and differentiating a broad range of viral and bacterial infections, including diseases such as HIV, hepatitis and healthcare-associated infections. Use of molecular testing to differentiate among pathogens can be useful in guiding treatment, such as selection of antibiotic or antiviral therapies.

- Immune monitoring – using advanced technologies that detect immune-system markers as a preventive strategy, such as screening patients for latent TB infection to guard against active TB disease, as well as for monitoring immune function, such as in transplantation patients.

QIAGEN offers one of the broadest portfolios of molecular technologies for healthcare. Success in Molecular Diagnostics depends on the ability to accurately analyze purified nucleic acid samples from sources such as blood, tissue, body fluids and stool, on automated systems that process these samples very reliably and efficiently, often handling hundreds of samples concurrently. Other key factors are the range of assays for diseases and biomarkers, convenience and ease of laboratory workflow, and reliability and standardization of lab procedures.

Our QuantiFERON-TB Gold and QuantiFERON-TB Gold Plus tests lead the industry in screening to support control of tuberculosis (TB), the largest killer of any infectious disease. The World Health Organization (WHO) estimates there were 10.4 million new active TB cases in 2015 and 1.8 million deaths, including 0.4 million deaths from TB in HIV-infected persons. An estimated one-third of the global population is infected with tuberculosis but with no symptoms of active disease, a condition known as latent TB infection (LTBI). Up to 10% of patients with LTBI will eventually develop active, contagious TB disease during their lifetime. Particularly vulnerable groups include immunocompromised patients or those receiving immunosuppressive drugs. The QuantiFERON-TB tests detect latent TB infection more accurately, enabling decisions to initiate preventative therapy in order to avoid progression to active TB. The potential global market for latent TB infection testing is estimated at up to $1 billion.

QIAGEN also is the global leader in screening technologies for HPV, a viral infection that is the primary cause of cervical cancer, which kills about 270,000 women a year. Our "gold standard" *digene* HC2 HPV Test and our *care*HPV Test for use in low-resource regions lead the market in HPV screening around the world. In the United States, QIAGEN remains a market leader although vigorous price competition has reduced that business to about 3% of our total sales. In Europe and other regions, we are a leader in a growing HPV market based on clinical evidence and policy initiatives for fighting cervical cancer. In 2016, we launched a follow-up diagnostic test for women at risk of developing cervical cancer. The CE-

marked QIAsure Methylation Test stratifies cervical cancer risk by detecting and measuring DNA methylation of two genes.

QIAGEN's oncology test portfolio includes a broad range of Personalized Healthcare technologies and biomarkers, including regulator-approved companion diagnostics for oncogenes such as KRAS and EGFR, as well as comprehensive gene panels for research applications in next-generation sequencing. In 2016, we launched the new *ipsogen* CALR RGQ PCR Kit in Europe, a unique CE-IVD marked assay for use in blood cancers known as myeloproliferative neoplasms (MPN). The test is highly synergistic with our European market-leading *ipsogen* JAK2 RGQ PCR Kit for use in blood cancers.

As the world's leading independent developer of molecular technologies, QIAGEN is the preferred partner for pharmaceutical and biotech companies to develop and commercialize companion diagnostics paired with targeted drugs, and the only company offering PCR and NGS technology. In 2016, we initiated additional co-development projects with existing and new partners and surpassed a milestone of 20 master collaboration agreements, each enabling multiple projects. These partnerships add to our pipeline of companion diagnostics to be commercialized in the future, following clinical trials and regulatory approvals along with the drugs.

QIAGEN also offers an extensive range of kits for diagnosing infectious diseases, and we are expanding this portfolio by seeking regulatory approvals of new tests in additional markets.

A key element of our expansion in Molecular Diagnostics is enabling laboratories to efficiently use our assay technologies on QIAGEN automation platforms. Our flagship PCR platform is QIAsymphony, based on its flexibility and unique capabilities. We offer broad portfolios of companion diagnostics and infectious disease tests running on the QIAsymphony system. We also are developing companion diagnostics for our GeneReader NGS System and Modaplex platform. Nucleic acid samples purified on our instruments are ready for use in the demanding and sensitive downstream assays performed in molecular diagnostic applications. We market assays directly via QIAGEN sales channels, and selected assays through major diagnostic partners or other companies to broaden the distribution of our products.

Applied Testing

Use of molecular technologies is expanding in more areas of life as industry and government organizations apply standardized Sample to Insight solutions to diverse needs. Applied Testing is our term for applications outside of human healthcare and research – such as human identification and forensics, food and environmental safety, and veterinary testing. The value of genetic "fingerprinting" has been shown for criminal investigations or clarification of paternity or ancestry, public policy compliance for food safety and genetically modified organisms (GMOs), and containment of diseases in commercial livestock. Molecular testing can be performed by well-trained researchers in fully equipped laboratories, and increasingly also by less-trained personnel provided with easy-to-use, reproducible and standardized methods for Point of Need testing.

QIAGEN has developed relationships with molecular testing laboratories and continually innovates across these diverse fields. In 2016, we launched automated high-throughput solutions to serve the growing need for DNA fingerprinting of reference samples for law enforcement databases. QIAGEN also entered a collaboration with the International Commission on Missing Persons to develop and validate a complete NGS solution, including the GeneReader NGS System, to enhance the ability to identify missing persons. Also, manufacturing of our *investigator* kits for forensic and human identity testing met the newly published international standards for forensics. In environmental research, QIAGEN's solutions for metagenomics gained visibility in 2016 and are increasingly used in studies of microbiomes.

Pharma

QIAGEN has 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 most likely to respond to particular therapies.

We estimate that about half of QIAGEN sales in this customer class support research, while the other half supports clinical development, including stratification of patient populations based on genetic information. QIAGEN's bioinformatics solutions also are widely used to guide pharmaceutical research.

As new drugs are commercialized, testing technologies developed in parallel with those therapies can move from Pharma R&D into the healthcare market as companion diagnostics, which QIAGEN markets in our Molecular Diagnostics customer class. Healthcare providers use companion diagnostics to test for specific genetic biomarkers that measure the safety and efficacy profiles of drugs in individual patients, achieving the best possible outcomes and avoiding unnecessary treatments. A wave of newly discovered biomarkers and companion diagnostics has begun to transform the treatment of cancer and other diseases.

In addition to the broad portfolio of molecular technologies, QIAGEN brings to the Pharma market a full infrastructure for co-development programs, intellectual property on platforms and content, extensive regulatory experience, global marketing reach, and independence as a company focusing exclusively on these types of technologies.

Academia

QIAGEN provides Sample to Insight solutions to leading research institutions around the world. While many academic laboratories continue to use manual, labor-intensive methods for nucleic acid separation and purification, QIAGEN has focused on enabling labs to replace time-consuming traditional methods with reliable, fast, highly reproducible, and high-quality nucleic acid extraction and purification technologies. QIAGEN often partners with leading institutions in research projects.

As academic institutions increasingly embrace translational research, bridging from discoveries to practical applications in medicine, our relationships in Academia also support our presence in the Molecular Diagnostics and Pharma customer classes. Research in university settings often helps in the development of specific technologies for targeted biomolecules, and academic research also can result in scientific publications that validate the usefulness of QIAGEN technologies for specific applications.

Global Presence by Category of Activity and Geographic Market

Product Category Information

Net sales for the product categories [4] 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.

[4] **Net Sales by Product Categories**

$ 1,000	2016	2015	2014
Net sales			
Consumables and related revenues	1,166,131	1,114,580	1,172,728
Instrumentation	171,860	166,406	172,049
Total	**1,337,991**	**1,280,986**	**1,344,777**

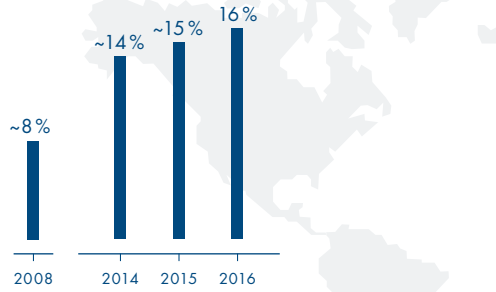
Geographical Information

QIAGEN currently markets products in more than 130 countries. The following table [5] 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):

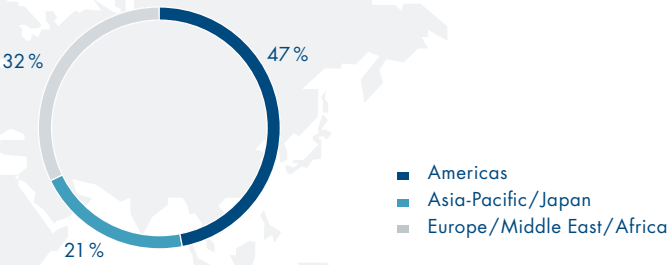
[5] **Net Sales by Geographic Regions**

$ 1,000	2016	2015	2014
Net sales			
Americas:			
United States	555,676	525,532	543,877
Other Americas	71,797	79,578	75,974
Total Americas	627,473	605,110	619,851
Europe, Middle East and Africa	428,055	409,955	451,092
Asia Pacific and Rest of World	282,463	265,921	273,834
Total	**1,337,991**	**1,280,986**	**1,344,777**

[6] **Emerging Markets: Important Drivers of Future Growth**



QIAGEN net sales in top seven emerging markets (in % of total sales)



Net Sales 2016
(in % of total sales)

QIAGEN has built an increasing presence in key emerging markets as a growth strategy [6]. In 2016, the top seven emerging markets – Brazil, Russia, India, China, South Korea, Mexico and Turkey – contributed approximately 16 % of net sales.

Growth Drivers and Key Catalysts

We believe the addressable global market totals approximately $ 8 billion for QIAGEN's portfolio of molecular testing products for customers across the continuum of life science research and molecular diagnostics. Driving the industry's long-term growth are ongoing breakthroughs and insights into molecular biology, the emergence of next-generation sequencing, bioinformatics to analyze and interpret molecular information, use of diagnostics to improve healthcare quality and reduce costs, and revenue streams made possible through consumable products.

We have grown substantially with a flexible strategy to accelerate innovation and growth by developing innovative new platforms, consumables and bioinformatics products, partnering with researchers and Pharma companies, and acquiring companies or technologies to complement our portfolio.

We are building momentum by continuing to focus on strategic growth drivers and key catalysts: [1]

1. Differentiated core technologies: Our growing portfolio of Sample to Insight solutions leverages QIAGEN's recognized global leadership in technologies to extract and isolate DNA and RNA from biological samples. In 2016, we expanded our sample technologies with innovative workflows to enable "liquid biopsies" and cutting-edge research, especially with next-generation sequencing.

2. QuantiFERON-TB: As the modern standard for detecting latent tuberculosis infection, QuantiFERON-TB Gold aids TB control by screening subpopulations of at-risk patients. In 2016, our fourth-generation QuantiFERON-TB Gold Plus, which provides additional insights for patients at greatest risk, gained momentum in about 60 markets worldwide, and we submitted it for FDA approval.

3. Next-generation sequencing: Our strategic initiative to drive NGS adoption in clinical research and diagnostics gained momentum in 2016 with growing adoption of our innovative GeneReader NGS System, providing a simpler, more cost-effective way for laboratories to take advantage of NGS technology and improve outcomes. Our broad portfolio of "universal" solutions for NGS users also is growing rapidly.

4. Personalized healthcare: We continue to develop and introduce companion diagnostics to guide the treatment of cancer and other diseases, as well as innovative sample technologies to support the care of patients. QIAGEN is a leading partner for pharmaceutical companies in co-developing tests paired with drugs for personalized medicine.

5. QIAsymphony: We are driving global adoption of the QIAsymphony automation platform, surpassing our target of 1,750 cumulative placements in 2016, and expanding the content menu of test kits for the platform. Growing QIAsymphony placements and the broad menu of innovative consumables, together, drive sales growth.

6. Bioinformatics: Our industry-leading bioinformatics portfolio is growing rapidly as users of next-generation sequencing seek solutions for handling huge amounts of genomic data. In 2016, we expanded our content-enabled software solutions for basic and clinical research in oncology and rare inherited diseases, as well as metagenomics and human identification. We continue to integrate bioinformatics with QIAGEN products to create Sample to Insight workflows.

Research and Development

We are committed to expanding our global leadership in Sample to Insight solutions for molecular testing in healthcare and the life sciences. Our strategy for managing innovation focuses on addressing the most significant unmet medical and scientific needs. We target our resources to develop promising technologies for use by our customers in Molecular Diagnostics, Applied Testing, Pharma and Academia – and to meet the needs of clinicians and scientists in key geographic markets.

Innovation at QIAGEN follows parallel paths:

- Creating new systems for automation of workflows – platforms for laboratories, hospitals and other users of these novel molecular technologies.

- Expanding our broad portfolio of novel "content" – including assays to detect and measure biomarkers for disease or genetic identification.

- Integrating bioinformatics with the testing process – software and cloud-based resources to interpret and transform raw molecular data into useful insights.

As a percentage of sales, our research and development investments are among the highest in our industry. Almost 1,000 employees in research and development work in QIAGEN centers of excellence on three continents. Our comprehensive intellectual property portfolio encompasses approximately 2,200 granted patents and nearly 800 pending applications.

Strengthening our leadership in the automation of laboratories is a key to driving dissemination of molecular testing in healthcare and other fields, as well as generating increased demand for our consumable products. We continue to extend our modular QIAsymphony platform, enabling hospitals and other customers to adopt or greatly expand their use of molecular diagnostics. QIAGEN also is rolling out a range

of performance enhancements and expansions for our GeneReader NGS System to add value by addressing new applications and improving output and connectivity within labs.

We are commercializing a deep pipeline of assays for preventive screening and diagnostic profiling of diseases, detection of biomarkers to guide personalized medicine in cancer and other diseases, and a broad range of other targets. Our development program generates commercial launches of tests that add value to our QIAsymphony RGQ and GeneReader NGS platforms. In 2016, we launched a comprehensive portfolio of QIAseq panels with Digital NGS technology enabling unbiased, accurate quantification of DNA, RNA and miRNA, compatible any next-generation sequencing platform. In Applied Testing, we continue to develop new content for human identification, food safety and veterinary diagnostics. We are also expanding our extensive portfolio of products for disease pathway research by Pharma and Academic customers. In addition, we are developing assays for specific applications in key markets such as China and Japan.

Our bioinformatics teams are developing new software solutions and adding proprietary cloud-based content to support the latest research and clinical trends in molecular testing, especially the interpretation of large volumes of data from next-generation sequencing. In addition, we are integrating these digital technologies 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 that we believe have the greatest sales potential in the Americas, Europe, Australia and Asia. Experienced marketing and sales staff, many of them scientists with academic degrees in molecular biology or related areas, sell our products and provide direct support to customers. Key accounts are overseen by business managers to ensure that we serve customers' commercial needs, such as procurement processes, financing, data on costs and 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, when possible, integrating components into end-to-end solutions, 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.

Digital channels – including our website (www.QIAGEN.com), product-specific sites and social media. QIAGEN has initiated actions to drive the growth of digital commercialization channels. Our website makes ordering easy with a fully searchable online product catalog and ordering. The site can be viewed in Chinese and Japanese, and also contains selected information in French, German and Korean. Our eCommerce team works with clients to provide automated processes supporting a wide 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.

Our GeneGlobe Genes & Pathways web portal (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. We have integrated GeneGlobe with our bioinformatics solutions, linking biological interpretation with ordering of relevant assays to accelerate research.

QIAGEN uses 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. We conduct direct marketing campaigns to announce new products and special promotions, and we offer personalized electronic newsletters highlighting molecular biology applications.

For laboratories that frequently rely on our consumables, the QIAstock program maintains inventory onsite 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.

Seasonality

Our business does not experience significant, predictable seasonality. Historically, a significant portion of our sales have 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 any of our customers' activities are slowed, such as during times of higher unemployment, vacation periods or delays in the 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.

Intellectual Property, Proprietary Rights and Licenses

We have made and expect to continue to make investments in intellectual property. In 2016, our purchases of intangible assets totaled $ 19.4 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, 2016, we owned 349 issued patents in the United States, 241 issued patents in Germany and 1,613 issued patents in other major industrialized countries. We had 776 pending patent applications. Our policy is to file patent applications in Western Europe, the United States and Japan. U.S. patents have a term of 17 years from the date of issue (for patents issued from applications submitted prior to June 8, 1995), or 20 years from the date of filing (in the case of patents issued from applications submitted on or after June 8, 1995). Patents in most other 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 of the 2016 Annual Report on Form 20-F on file with the U.S. Securities and Exchange Commission for details regarding risks related to our reliance on patents and proprietary rights.

Competition

In the Academic and Pharma markets, we believe our primary competition in sample technology products involves traditional separation and purification methods, such as phenol extraction, cesium chloride density gradient centrifugation, and precipitation. These methods utilize widely available reagents and other chemicals supplied by companies such as Merck KGaA (MilliporeSigma business). and Roche Diagnostics GmbH (Applied Sciences Division). We compete with these methods through innovative technologies and products, offering a comprehensive solution for nucleic acid collection, pretreatment, separation and purification needs and providing significant advantages in speed, reliability, convenience, reproducibility and ease of use.

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, Promega Corp., EMD Millipore or Merck Millipore, and Macherey-Nagel GmbH for nucleic acid separation and purification; Thermo Fisher and Promega Corp. for assay solutions and for transfection reagents; and Sigma-Aldrich Corp. and Thermo Fisher for protein fractionation products. We believe our proprietary technologies and products offer significant advantages over competitors' products with regard to purity, speed, reliability 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. Our competitors for gene-based diagnostic probes include Roche Diagnostics, Abbott, Siemens, Cepheid and Hologic. 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 do not believe our competitors typically have the same comprehensive approach to sample to insight solutions as we do or 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.

Suppliers

As part of our quality assessment procedures, we periodically evaluate the performance of our raw material and component suppliers, potential new alternative sources of such materials and components, and 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 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, so 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.

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) are 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 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 13485:2003, 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 relevant 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. On September 26, 2012, the European Commission (EC) adopted a proposal for new EU regulations for medical devices and IVDs that when finalized will impose additional regulatory requirements on IVDs used in the EU. These new regulations are targeted to be signed into law in early 2017 with a 5 year implementation requirement. Once implemented, the entire EU IVD industry will have to comply with the new requirements.

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 of the major markets are adopting regulations and requirements similar to U.S. Food and Drug Administration (FDA) which require additional submission activities and management of country specific regulatory requirements.

We are also required to maintain accurate information and control over sales and distributors' activities that may fall within the purview of the Foreign Corrupt Practices Act, its books and records provisions and its anti-bribery provisions.

U.S. Regulations

In the United States, *in vitro* diagnostic kits are subject to regulation by the FDA as medical devices and must be cleared or approved before they can be marketed. Failure to comply with applicable U.S. requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending NDAs, warning letters, product recalls, product seizures, total or partial sus-

pension of production or distribution, injunctions, fines, civil penalties and criminal prosecution. In addition, some of our test kits are sold for research use only in the United States. 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.

In Vitro Diagnostics

The FDA regulates the sale or distribution of medical devices, including in vitro diagnostic test kits and some Lab Developed Tests (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 on the basis of 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, pre-market notification and adherence to the FDA's quality system regulations, which are device-specific good manufacturing practices. Class II devices are subject to general controls and 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. All 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 fee, that is subject to frequent adjustment, to the FDA is usually required when a 510(k) notice or premarket approval application is submitted.

510(k) Premarket Notification. A 510(k) 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 application (PMA) 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.

The FDA generally issues a decision letter within 90 days of receipt of the 510(k) if it has no additional questions or sends a first action letter requesting additional information within 75 days. Most 510(k)s do not require clinical data for clearance, but a minority will. Requests for additional data, including clinical data, will increase the time necessary to review the notice. If the FDA believes that the device is not substantially equivalent to a predicate device, it will issue a "Not Substantially Equivalent" letter 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. Under certain circumstances, the sponsor may petition the FDA to make a risk-based determination of the new device and reclassify the new device as a Class I or Class II device. The FDA continues to reevaluate the 510(k) review process, and we cannot predict what if any changes will occur.

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.

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, or IVD. IVDs are regulated by the FDA as medical devices. The 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 expects that the therapeutic sponsor will address the need for an approved or cleared IVD companion diagnostic device in its therapeutic product development plan and that, in most cases, the therapeutic product and its corresponding IVD companion diagnostic will be developed contemporaneously.

It also issued a draft guidance on July 15, 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 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 developed for use with our drug candidates 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.

PMAs must be supported by valid scientific evidence, which typically requires extensive data, including technical, preclinical, clinical and manufacturing data, to demonstrate to the FDA's satisfaction the safety and effectiveness of the device. For diagnostic tests, a PMA typically includes data regarding analytical and clinical validation studies. As part of its review of the PMA, the FDA will conduct a pre-approval inspection of the manufacturing facility or facilities to ensure compliance with the Quality System Regulation, or QSR, which requires manufacturers to follow design, testing, control, documentation and other quality assurance procedures. FDA review of an initial PMA may require several years to complete.

If the FDA evaluations of both the PMA and the manufacturing facilities are favorable, the FDA will either issue an approval order or an approvable letter, which usually contains a number of conditions that must be met in order to secure the final approval of the PMA. If the FDA's evaluation of the PMA or manufacturing facilities is not favorable, the FDA will send the applicant a not approvable letter or an order denying approval. A not approvable letter will outline the deficiencies in the application and, where practical, will identify what is necessary to make the PMA approvable. The FDA may also determine that additional clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and then the data submitted in an amendment to the PMA. Once granted, PMA approval may be withdrawn by the FDA if compliance with post approval requirements, conditions of approval or other regulatory standards is not maintained or problems are identified following initial marketing.

After approval, the use of an IVD companion diagnostic device with a therapeutic product will be stipulated in the instructions for use in the labeling of both the diagnostic device and the corresponding therapeutic product. In addition, a diagnostic test that was approved through the PMA process or one that was cleared through the 510(k) process and placed on the market will be subject to many of the same regulatory requirements that apply to approved drugs. The FDA has approved a number of drug/diagnostic device companions in accordance with the Guidance.

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,* and *therascreen* products. We established a task force to ensure that the deadline was met but this will place 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 are required to have this same labeling as of September 24, 2016 and 2018, respectively. QIAGEN was fully compliant with the new rule by the September 2014 and 2016 deadlines and we continue to work to ensure that we will be able to meet the remaining deadlines. The new rule will also require additional compliance oversight now that it has been implemented. The requirements are now required to be confirmed as part of our annual reporting and PMA submissions. They are also assessed during site inspections by the U.S. FDA.

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.

On October 3, 2014, the FDA published notices in the Federal Register formally announcing their release and the beginning of a 120-day public comment period, which ended on February 2, 2015, for the Draft Guidance for Industry, Food and Drug Administration Staff, and Clinical Laboratories: Framework for Regulatory Oversight of Laboratory Developed Tests (LDTs), and Docket No. FDA-2011-D-0357 for Draft Guidance for Industry, Food and Drug Administration Staff, and Clinical Laboratories: FDA Notification and Medical Device Reporting for Laboratory Developed Tests (LDTs). These draft Guidances were withdrawn in January 2017, and replaced by an informal non-enforceable discussion paper reflecting some of the feedback that it received from QIAGEN and other companies and industry groups. It is not possible to precisely assess the potential impact of the discussion paper on the issuance of any new draft Guidance or regulation. QIAGEN has an executive task force that is monitoring and participating in the draft process to insure the earliest possible awareness of new developments in this area.

HIPAA and Other Privacy and Security Laws

Numerous privacy and data security laws apply to personal information, including health information. These laws vary in their application. For example, the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, and their implementing regulations (HIPAA), regulate the uses, disclosures and security of identifiable health information (protected health information or PHI) in the hands of certain health care providers, health plans or health care clearing houses (covered entities). HIPAA regulates and limits covered entities' uses and disclosures of PHI and requires the implementation of administrative, physical and technical safeguards to keep PHI secure. HIPAA also applies to organizations that create, receive, maintain or transmit PHI to provide services to or for or on behalf of covered entities (business associates). Business associates and certain of their subcontractors are required to comply with certain privacy and all of the security standards of HIPAA. Business associates and covered entities must also comply with breach notification standards established by HIPAA. The HIPAA breach notification standards require covered entities to notify affected individuals, the government, and in some cases, local and national media in the event of a breach of PHI that has not been secured by encryption. The breach notification standards require business associates to notify covered entity customers of their own breaches of unsecured PHI so that the relevant covered entity may make required notifications. If we were to act as a HIPAA covered entity or business associate, we would be subject to these obligations.

Almost all states have adopted data breach notification laws relating to the "personal information" of its residents. Personal information typically includes an individual's name or initials coupled with social security, financial account, debit, credit or state-issued identification number or other information that could lead to identity theft. There is significant variability under these laws, but most require notification to affected individuals (and some require notification to the government) in the event of breach. Other laws of some states require that that we comply with data security obligations. These laws may apply to us when we receive or maintain personal information regarding individuals, including our employees.

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. Most of our institutional and physician customers are covered entities under HIPAA and must obtain proper authorization or de-identify information so that we may provide services. When PHI is de-identified in accordance with HIPAA or when the disclosure of PHI is authorized by a patient, HIPAA does not impose any compliance obligations on the recipient, but our use and disclosure of the information may be limited by contract or the terms of the authorization.

We are subject to enforcement by state attorneys general who have authority to enforce state data privacy or security laws. Accordingly, we maintain an active privacy and data security program designed to address applicable regulatory compliance requirements.

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, there are non-U.S. privacy laws that impose restrictions on the transfer, access, use, and disclosure of health and other personal information. 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.

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 Statue 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 assure healthcare providers, in-

cluding medical device manufacturers, that they will not be prosecuted 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.

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 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 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 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 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.

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.

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 programs such as Medicare and Medicaid; and, in certain circumstances, hospitals, referring laboratories or the patients themselves. For many years, federal and state governments in the United States have pursued methods to reduce the cost of these programs. 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.

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 is a listing of descriptive terms and identifying codes 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.

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. 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.

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. The new CPT codes were issued final national reimbursement prices by CMS in November of 2013. These federal reimbursement amounts are widely acknowledged to be lower than the reimbursement obtained by the now outdated "stacking" method, but commercial payors and Medicare contractors are still in the process of solidifying their coverage and reimbursement policies for the testing described by these new CPT codes. The lower reimbursement amounts experienced in the field of molecular pathology testing may soon be extending to other codes on the Clinical Laboratory Fee Schedule as CMS begins to base CPT laboratory code payment on third party payer rates in 2017, per the Protecting Access to Medicare Act (PAMA) passed in April 2014.

Coverage Decisions. When deciding whether to cover a particular diagnostic test, private and government third-party payors generally consider whether the test is a contractual benefit and, if so, whether it is reasonable and necessary for the diagnosis or treatment of illness and injury. Most third-party payors do not cover experimental services. Coverage determinations often are influenced by current standards of practice and clinical data, particularly at the local level. The Centers for Medicare & Medicaid Services (CMS) which is the government agency responsible for overseeing the Medicare program, 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 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 for diagnostic tests furnished to Medicare beneficiaries in outpatient circumstances is made based on the Clinical Laboratory Fee Schedule, under which a payment amount is assigned to each covered CPT code, or through the Outpatient Prospective Payment System (OPPS), which is the outpatient equivalent of the DRG model. The law technically requires fee schedule amounts to be adjusted annually by the percentage increase in the consumer price index (CPI) for the prior year, but Congress has frozen payment rates in certain years. Medicaid programs generally pay for diagnostic tests based on a fee schedule, but reimbursement varies by state.

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

Recent 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 which 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, 2015 on Form SD on May 25, 2016 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 the 2016 Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission.

Description of Property

Our production and manufacturing facilities for consumable products are located in Germany, the United States, China, and the United Kingdom. Our facilities for software development are located in the United States, Germany, Poland 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 AG. Worldwide, we use SAP software to integrate most of our operating subsidiaries. Capital expenditures for property, plant and equipment totaled $74.5 million, $97.8 million and $86.6 million for 2016, 2015 and 2014, 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, and Germantown, Maryland. 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 776,000 square feet, some of which is leased pursuant to separate contracts, the last of which expires in 2018. In December 2016, we signed a contract to purchase additional office and warehouse space of approximately 4,400 square feet which we plan to occupy in the first quarter of 2017. During 2015, we purchased additional office and warehouse space of approximately 23,700 square feet. 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 2015, we completed expansion of our research and production facilities in Hilden, Germany and renovations of administrative facilities in Germantown, Maryland.

We lease a facility in Frederick, Maryland comprising a total of 42,000 square feet for manufacturing, warehousing, distribution and research operations. We also lease facilities in Massachusetts with 44,400 square feet in Waltham for GeneReader NGS system development and 39,100 square feet in Beverly for enzyme manufacturing. Our California sites have a total of 33,500 square feet in Redwood City for Bioinformatics. Additionally, we lease smaller facilities in Shenzhen, China and Manchester, United Kingdom for manufacturing, warehousing, distribution and research operations. In 2015, we completed expansion work in Manchester to add additional research and development space. 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.

Opportunities and Risks

QIAGEN, like any other company, has business operations that involve significant opportunities and risks. Effective management is paramount to safeguarding the sustainable value creation, and the central task of the leadership team. Managing opportunities and risks is an integral part of the corporate governance system in place throughout QIAGEN, not the task of one particular organizational unit. Management systems are in place to aggregate all risks and opportunities for review at the Managing Board and Supervisory Board levels of QIAGEN N.V., and these are reviewed on a routine basis. According to our current assessment, we consider the opportunities and risks to be manageable and the survival of QIAGEN not to be endangered at the end of 2016, which was the same position taken at the end of 2015. This assessment is supported by our strong balance sheet and the current business outlook, and further supported by the positive historical response to our external financing demands. As a result, QIAGEN has not sought an official rating by any of the leading ratings agencies. We are confident in the future earnings strength of QIAGEN and have access to the resources to pursue value-creating business opportunities.

Opportunities

As an international company, QIAGEN is exposed to a wide variety of developments in the various markets in which it operates. Our mission is to "make improvements in life possible" by capturing growth opportunities presented by the dissemination of molecular technologies across the four customer classes in Molecular Diagnostics, Applied Testing, Pharma and Academia. Due to increased life expectancy for people living in developed countries, and also the dynamic growth of healthcare demand in many emerging markets, the need for innovative diagnostics is increasing at a marked pace. This is underscored by the proven benefits of diagnostics to improve healthcare outcomes, particularly the advent of companion diagnostics to personalize healthcare, while still representing a small fraction of overall healthcare expenditures. Our internal R&D activities present major opportunities, and we are working to find new products and improve existing ones across our portfolio of Sample to Insight solutions. We also continuously evaluate potential additional opportunities across our four customer classes as an integral part of our strategy. All of these factors represent future growth opportunities for QIAGEN.

One of the most important senior management tasks at QIAGEN is to identify and assess opportunities as early as possible and to initiate appropriate measures in order to maximize the fullest value of opportunities and transform them into business success. QIAGEN evaluates organic growth opportunities each year as part of its annual budget planning process, and on an ongoing basis during the year, especially in dynamically changing areas of the business portfolio. These evaluations are based on proposals for new products, services and technologies developed within QIAGEN. This cross-functional process involves a careful analysis of the market environment and competitive positioning, as well as additional factors such as expected development timelines, regulatory and reimbursement issues when evaluating organic opportunities. Business plans include information about the product or service planned to be developed, along with profiles on target customers and competitors, market size and barriers to entry. It also outlines the resources required for implementation. As part of this process, these plans are subjected to a uniform profitability analysis to determine the net present value of an investment and the opportunities to create value (as measured with QIAGEN Value Added, or QVA) and generate returns that exceed the Group's cost of capital after a multi-year period. The monitoring of growth initiatives is done through regular reporting to the Supervisory Board, which receives reports on a frequent basis during the year about the status and progress of key initiatives. Project management and the supporting central functions report directly to Peer M. Schatz, the CEO of QIAGEN.

[7] **Risk Types**

Base Business Risk

- 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

- Managing development and success of key R&D projects
- Managing successful integration of acquisitions to achieve anticipated benefits

Underlying Business Risk

- 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

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. Risk management 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: [7]

- A base business risk is specific to us or our industry and that threatens our existing business;
- A business growth risk is specific to us or our industry that threatens our future business growth; and
- An underlying business risk 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. A detailed review of all underlying business risks is completed every year. 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 the 2016 Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission) and the function of the Audit Committee of the Supervisory Board (discussed in more detail in Item 6 of the 2016 Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission). We maintain adequate internal controls over financial reporting to ensure the integrity of financial reporting, which is described further in Item 15 of the 2016 Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission. 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 the 2016 Annual Report on Form 20-F.

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.

Risks

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, with total net sales increasing to $1.34 billion in 2016 from $1.25 billion in 2012. We have made a series of acquisitions in recent years, including the acquisitions of Exiqon A/S in 2016, MO BIO Laboratories in 2015, Enzymatics and BIOBASE in 2014, Ingenuity and CLC bio in 2013, and Intelligent BioSystems and AmniSure in 2012. 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. The successful integration of acquired businesses requires a significant effort and expense across all operational areas.

We have also made significant investments to expand our business operations. We completed an expansion project in Germany in early 2012 and another at our facility in Germantown, Maryland, for research, production and administrative space in 2013. We completed two smaller-scale building projects in 2015. These expansion projects have increased 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 planned facilities. In 2012, we added a subsidiary in Poland as part of the creation of a new global shared services center to gain economies of scale in various administrative functions, and since that time have expanded the shared service center to include more than 150 employees. 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 and expand the geographic presence of our operations, we intend to continue to assess the need for reallocation of existing resources or the hiring of new employees as well as increased responsibilities for both existing and new management personnel.

Our future operating results will depend on the ability of our management 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 other 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 to offset associated acquisition costs;
- implementation and maintenance of uniform standards and effective controls and procedures;
- maintenance of relationships with employees and customers 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.

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.

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. 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 thereafter. 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, which will 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, and we may experience delays 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 competitive technologies. Some of the factors affecting market acceptance of new products include:

- availability, quality and price relative to competitive 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 and software. 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 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.

Important new product programs underway include our modular medium-throughput QIAsymphony automation platform, our new GeneReader NGS System for next-generation sequencing (NGS), sample and assay technologies designed either for QIAGEN instruments or for "universal" use on other platforms, and bioinformatics solutions to analyze and interpret genomic data.

The speed and level of adoption of our QIAsymphony and GeneReader NGS 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 QIAsymphony and GeneReader NGS System 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 to run on QIAsymphony or GeneReader NGS System, 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, or the GeneReader NGS System could significantly affect sales of products designed to run on these platforms.

Our strategic initiative in NGS, including rollout of the GeneReader NGS System and related consumables, aims to drive the adoption of this technology in clinical research and diagnostics. This involves development and commercialization of universal pre-analytic and bioinformatics products for NGS, as well as commercialization of our proprietary GeneReader NGS workflow and related consumables. The market for next-generation sequencing instruments is very competitive, and the speed and level of adoption of our universal solutions and the GeneReader workflow will affect sales of our Sample to Insight solutions.

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. In times of economic hardship or high unemployment, patients may decide to forgo or delay routine tests, in particular our HPV test used to screen women for risk of cervical cancer. Changes in the availability or reimbursement of our diagnostic testing products by insurance providers and healthcare maintenance organizations could also have a significant adverse impact on our results of operations.

Access to financing in the global financial markets has also been adversely affected for many businesses during the recent challenging economic times and public debt crisis. 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, 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 (as in the U.S. in 2013). 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.

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

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 diagnostic product 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. This process can delay the broad market introduction of new products, and could have a negative effect on our results of operations. As a result, third-party reimbursement may not be 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. For example, in 2010, the Patient Protection and Affordable Care Act, or ACA, was enacted with the goal of expanding coverage, increasing quality of care and reducing costs through payment innovation, among other things. Although President Trump and many in Congress have expressed an intention to repeal or repeal and replace the ACA, the Centers for Medicare and Medicaid Services had already made changes to payment models and it is not possible to predict what if any changes will result from any repeal or replacement of the ACA. The 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. 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 22 % of our sales are generated from demand for our products used in the Academia customer class by researchers at universities, government laboratories and private foundations, and whose funding is dependent upon grants from government agencies, such as the NIH. Although the level of research funding has been increasing in recent years, we cannot assure you 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.
We face various competitive factors against greater adoption of our products, in particular the use of laboratory-developed tests (LDTs), where widely available reagents and other chemicals are used in a non-standardized manner to perform sample and assay processing. While the use LDTs will be limited due to the fact that they are not FDA or similarly approved, the success of our business depends in part on the continued conversion of current users of LDTs to our standardized sample and assay technologies and other products. There can be no assurance, however, as to the continued conversion of these potential customers. We are also aware that a significant number of laboratory organizations and competitors are developing and using their own internally developed molecular tests. Some competitor companies may seek regulatory approvals from the U.S. Food and Drug Administration (FDA) or similar non-U.S. regulatory authorities and bring to the market alternative products that could limit the use of our products.

We have experienced, and expect to continue to experience, increasing competition from companies that provide competitive pre-analytical solutions and also other products used by our customers. The markets for some of our products are very competitive and price sensitive. Other product suppliers may have significant advantages in terms of financial, operational, sales and marketing resources as well as experience in research and development. These companies may have developed, or could develop in the future, new technologies that compete with our products or even render our products obsolete. The development of products offering superior technology or a more cost-effective alternative to our products could have a material adverse effect on our results of operations.

We believe that customers in the market for pre-analytical sample technologies as well as for assay technologies display significant loyalty to their initial supplier of a particular product, in particular given the time and expense required by customers to properly integrate these products into their operations. As a result, it may be difficult to convert customers who have purchased products from competitors, and our competitive position may suffer if we are unable to be the first to develop and supply new products.

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 continuous changes in the governing regulatory framework, particularly for product approvals. 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. and Japan. In recent years, several highly publicized scientific events (most notably in genomic research 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 existing 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 of 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. These trials could be subject to extensive regulation by governmental authorities in the U.S., particularly the FDA, and regulatory agencies in other countries. These trials involve substantial uncertainties and could impact customer demand for our products.

In addition, certain products, especially those intended for use in *in vitro* diagnostic applications, require regulatory approvals in various countries. For example, since the European Union Directive 98/79/EC on *in vitro* diagnostic medical devices (EU-IvD-D) went into effect in 2003, all products and kits used for *in vitro* diagnostic applications must be compliant with this directive. In addition to high-risk products such as HIV testing systems (list A of Annex II of the directive) or blood glucose testing systems (list B of Annex II of the directive), nucleic acid purification products, which are used in diagnostic workflows, are affected by this regulatory framework. The major goals of this directive are to standardize diagnostic procedures within the European Union, to increase reliability of diagnostic analysis and to enhance patient safety. In addition, new Medical Device Regulations and In Vitro Diagnostic Regulations, part of which may go into effect as early as 2018, will make major changes in the CE marking certification and compliance requirements for all medical devices and *in vitro* diagnostics. If we fail to obtain any required clearances, approvals, or certifications, it could significantly damage our business in these markets.

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 regulations 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.

Each medical device that we wish to distribute commercially in the U.S. will likely require us to seek either 510(k) clearance or approval of a pre-market approval application (PMA) from the FDA prior to marketing the device for in-vitro diagnostic use. Clinical trials related to our regulatory submissions may take years to complete and represent a significant expense. The 510(k) clearance pathway usually takes from three to 12 months, but can take longer. The PMA pathway is more costly, lengthy and uncertain, and can take from one to three years, or longer. For example, it took more than four years to receive pre-market approval from the FDA for our HPV test product for use as a test for the presence of HPV in women with equivocal Pap test results and pre-market approval for the use of our HPV test as a primary adjunctive cervical cancer screening test to be performed in combination with the Pap test for women age 30 and older. The uncertain time period required for regulatory review increases our costs to develop new products and increases the risk that we will not succeed in introducing or selling new products in the U.S.

Our cleared or approved devices, including our 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, we could be forced to stop selling the product until appropriate regulatory clearance or approval has been obtained. Further, some of our products are used in LDTs, where laboratories use our materials for assays manufactured, validated and performed in house. We do not promote these products for clinical diagnostic use.

Further, the FDA has publicly announced its intention to regulate certain LDTs in a phased-in approach, but draft guidance that was published a couple of years ago was withdrawn at the end of the Obama administration and replaced by an informal nonenforceable discussion paper reflecting some of the feedback that it received on LDT regulation. LDTs represent the majority of molecular tests currently in use in terms of volume, and our automation systems – particularly the QIAsymphony platform – are designed to accommodate the automation and validation of these tests. On the other hand, laboratories creating LDTs may use some of our materials in their tests. We do not promote these products for clinical diagnostic use, but if the FDA were to stop the use of LDTs or significantly limit their area of application, sales of some of our products in the U.S. could be adversely affected. The flexibility to handle LDTs is an advantage for our instruments, particularly the QIAsymphony automation system. On the consumables side, however, LDTs can at times create competition to our own commercially approved tests. We are pursuing a strategy of developing new content for our platforms partly by seeking regulatory approvals for new assays that incorporates approvals for these tests to run on QIAGEN instruments. We believe standardized tests that pass regulatory scrutiny and are clinically validated are highly attractive to reference laboratories and healthcare providers in our Molecular Diagnostics customer class, and also to customers in Pharma and Academia who rely on molecular assays to research and develop new products. At this point, the ultimate impact of potential new FDA policies on LDTs is uncertain.

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

Because 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.

Changes in tax laws or their application or the termination or reduction of certain government 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 certain income or

loss 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 carry forwards, intercompany dividends, controlled corporations, and limitations on tax relief allowed on the interest on intercompany debt, 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. Additionally, changes in other laws may subject us to additional excise taxes. Current tax proposals within the U.S. House of Representatives (the "Blueprint"), which include provisions for a border adjustment tax and disallowance of interest expense (among others), could have materially adverse tax consequences. In addition, the U.S. White House is yet to provide its comprehensive tax plan outline, which may or may not be consistent with the Blueprint, thereby raising even more uncertainly in terms of final law and timeline. 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 or financial flexibility.

We rely on collaborative commercial relationships to develop 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.

For example, our Personalized Healthcare 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 those drugs, the outcome of clinical trials for the drugs and diagnostics, and regulatory approvals of the paired diagnostic tests and drugs. In addition, the future level of sales for companion diagnostics that we bring to market depends to a high degree on the commercial success of the related medicines for which the tests have been designed to be used for determining their use in patients. More companion diagnostics would be sold in combination with a widely prescribed drug than a drug with limited use. Hence, the future success of these diagnostics depends on our Pharma partners' commercialization actions and success.

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 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 customer's request, we have conducted sales transactions through third-party online intermediaries to whom we are required to pay commissions. If sales grow through these intermediaries, it could have an adverse impact on our results of operations, particularly a negative impact on our gross profit.

Our global operations may be affected by actions of governments, global or regional economic 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 consumable manufacturing facilities are located in Germany, China, the United Kingdom and the U.S. We have established sales subsidiaries in numerous countries and our products are sold through independent distributors serving more than 40 additional countries. Our facilities may be harmed by unforeseen events, and in the event, we or our customers are affected by a disaster, we may experience delays or reductions in sales or production, or increased costs, or may be required to identify alternate suppliers 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 ship products to customers or otherwise operate our business. 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 shutdown 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 from casualties 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 timely or in sufficient quantities or qualities in order to produce certain products, and this could have an adverse impact on our results of operations.

We heavily rely 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 only keep a modest inventory of our products on hand, and consequently require overnight delivery of purchases. As a result, we heavily rely 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.

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 manufacturing 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.

The markets we serve are typically characterized by a high percentage of purchase orders being received in the final few weeks or even 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 it is during this period that they receive new information on both their budgets and requirements. Additionally, volatility in the timing of milestones 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 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 have been 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 adversely affected.

We are subject to privacy and data security laws and rely on secure communication and information systems which, in the event of a breach or failure, expose us to risks.

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 intellectual property and other proprietary business information and that of our customers, suppliers and business partners, and personally identifiable information of our customers and employees, in our data centers and on our networks. Our operations rely on the secure processing, storage and transmission of confidential and other information on our computer systems and networks. We are transforming to a digital, cloud-leveraging organization, which places our assets, customer data, and personally identifiable data at a higher risk than in previous years. We are making significant investments to ensure our employees are aware of cyber security risks facing our company and how to prevent data breaches. Although we are not aware of the occurrence of any data breaches on our systems, we are continuously modernizing our cyber security tools in an attempt to keep pace with evolving cyber security risks. External phishing emails (occurring outside of our computer services) is a growing threat that our customers are facing. These emails could lead to the disclosing of intellectual property or personally identifiable information, which could lead to financial harm and cause reputational damage. While our cyber security team works diligently 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 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 any of the 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. As our activities continue to evolve and expand, we may be subject to additional laws which 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. 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.

Our operations have inherent IT risks

Business and production processes are increasingly dependent on information technology systems. Major disruptions or failure of global or regional business systems may result in the loss of data and/or impairment of business and production processes. QIAGEN has established a global IT organization with rules and regulations that define the relevant roles and responsibilities, and also works with external partners that provide certain operative IT functions. Technical precautions have been established together with our IT service providers to address this risk.

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 as well as restrictive covenants imposed on us 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 any 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.

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 upon 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.

We currently anticipate that our short-term capital requirements will be satisfied by cash flow from our operations. As of December 31, 2016, we had outstanding long-term debt of approximately $1.1 billion, of which no amount was current. Furthermore, as of December 31, 2016, we had capital lease obligations, including the current portion, of $2.6 million, that expire in various years through 2020. We may need to refinance all or part of these liabilities before or at their contractual maturities.

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 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.

We will settle any conversions of the Cash Convertible Notes 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 13, "Derivatives and Hedging" and Note 15 "Lines of Credit and 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 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, 2016, our consolidated balance sheet reflected approximately $1.9 billion of goodwill and approximately $557.2 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) requires 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 other than temporary 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, the United Kingdom and the U.S. We source raw materials and subcomponents to manufacture our products from different countries. We have established sales subsidiaries in numerous countries including the U.S., Germany, Japan, the United Kingdom, France, Switzerland, Australia, Canada, the Netherlands, Sweden, Italy, Hong Kong, Singapore, Turkey, South Korea, Taiwan, Malaysia, China, Spain, Brazil, Mexico, South Africa and India. 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 general economic conditions in the countries in which we operate, 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, trade restrictions, exchange controls and changes in tariff and 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.

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, Russia, India, China, South Korea, Mexico and Turkey, which together accounted for approximately 16% of total sales in 2016, and we expect to continue to focus on expanding our business in these or other fast-growing markets. In addition to the currency and international operation risks described above, our international operations are subject to a variety of risks that include those arising out of the economy, political outlook and language and cultural barriers in countries where we have operations or do business. In many of these emerging markets, we may be faced with 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 which 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.

Unethical behavior and non-compliance with laws by our sales agents, consultants, distributors or employees could seriously harm our business.
Our business in countries with a history of corruption and transactions with foreign governments increase 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 busi-

ness entities for the purpose of obtaining or retaining business. We have operations, agreements with third parties and make sales in countries known to experience corruption. Further international expansion may involve increased exposure to such practices. Our activities in these countries, and in all countries as well, 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. It is our policy 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, 2016, we owned 349 issued patents in the United States, 241 issued patents in Germany and 1,613 issued patents in other major industrialized countries. In addition, at December 31, 2016, we had 776 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.

Certain 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.

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. We are aware that patents have been applied for and/or issued to third parties claiming technologies for the 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 and, 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 could involve substantial cost, and there can be no assurance that we would prevail in any proceedings.

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 from 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, the impact of restructuring activities, the 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 and short-term investments. 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.

U.S. civil liabilities may not be enforceable against us.
We are incorporated under Dutch law, and substantial portions of our assets are located outside of the U.S. In addition, certain members of our Managing and Supervisory Boards and our officers reside outside the U.S. As a result, it may be difficult for investors to effect service of process within the U.S. upon us or such other persons, or to enforce outside the U.S. any judgments obtained against such persons in U.S. courts, in any action, including actions predicated upon the civil liability provisions of U.S. securities laws.

In addition, it may be difficult for investors to enforce, in original actions brought in courts in jurisdictions located outside the U.S., rights predicated upon the U.S. securities laws. There is no treaty between the U.S. and the Netherlands for the mutual recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters. As a result, a final judgment for the payment of money rendered by any federal or state court in the U.S. based on civil liability, whether or not predicated solely upon the federal securities laws, would not be directly enforceable in the Netherlands. However, if the party in whose favor such final judgment is rendered brings a new suit in a competent court in the Netherlands, such party may submit to the Dutch court the final judgment which has been rendered in the U.S. If the Dutch court finds that the jurisdiction of the federal or state court in the U.S. has been based on grounds that are internationally acceptable and that proper legal procedures have been observed, the Dutch court will, in principle, give binding effect to the final judgment which has been rendered in the U.S. without substantive re-examination or re-litigation on the merits of the subject matter thereof, unless such judgment contravenes Dutch principles of public policy. Based on the foregoing, there can be no assurance that U.S. investors will be able to enforce against us, members of our Managing or Supervisory Boards, or officers who are residents of the Netherlands or countries other than the U.S. any judgments obtained in U.S. courts in civil and commercial matters, including judgments under the federal securities laws. In addition, there is doubt as to whether a Dutch court would impose civil liability on us, the members of our Managing or Supervisory Boards, or our officers in an original action predicated solely upon the federal securities laws of the U.S. brought in a court of competent jurisdiction in the Netherlands against us or such members or officers, respectively.

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. In the last two years, the price of our Common Shares has ranged from a high of $ 28.84 to a low of $ 19.94 on NASDAQ, and a high of € 27.26 to a low of € 17.76 on the Frankfurt Stock Exchange. 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.

In January 2017, we completed a synthetic share repurchase that combined a direct capital repayment with a reverse stock split and we plan to complete an additional share repurchase program of up to $50.0 million by the end of 2017. We do not anticipate paying any cash dividends on our Common Shares for the foreseeable future, and until the January 2017 distribution in connection with a synthetic share repurchase, we have not paid cash dividends since our inception. Although we do not anticipate paying any cash dividends on a regular basis, the distribution of any cash dividends 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 continued stock repurchase programs.

Between October 2012 and April 2013, we repurchased a total of 5.1 million of our Common Shares for an aggregate cost of $99.0 million, and between September 2013 and June 2014, we repurchased an additional 4.4 million of our Common Shares for $100.4 million (including performance fees). In 2014 and 2015, we repurchased a total of 2.9 million Common Shares for an aggregate cost of $69.9 million under our third share repurchase program. In January 2017, we completed a synthetic share repurchase that combined a direct capital repayment with a reverse stock split. The transaction was announced in August 2016 and involved an approach used by various large, multinational Dutch companies to provide returns to all shareholders in a faster and more efficient manner than traditional open-market purchases. $244.0 million was returned to shareholders through the transaction, which reduced the total number of issued common shares by approximately 3.7% to 230.8 million (of which 4.95 million in treasury) as of January 31, 2017. In addition to the synthetic share repurchase, we announced additional share repurchases to take place via the open market during the remainder of 2017 with a view to return an aggregate amount of $300.0 million to our shareholders.

The purpose of these repurchases has been to hold the shares in treasury in order to satisfy obligations from exchangeable debt instruments and/or employee share-based remuneration plans and thus to reduce dilution to existing holders of our Common Shares. We may decide not to continue such programs in the future, the covenants we have with our lenders may limit our ability to use available cash to do so, and 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 €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 €0.01 par value. As of December 31, 2016, a total of approximately 234.6 million Common Shares were outstanding along with approximately 11.6 million additional shares reserved for issuance upon exercise or release of outstanding stock options and awards, of which 1.4 million were vested. A total of approximately 17.9 million Common Shares are reserved and available for issuances under our stock plans as of December 31, 2016, 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, the Warrants issued in connection with the Cash Convertible Notes Call Spread Overlay cover an aggregate

of 25.8 million shares of our common stock (subject to anti-dilution 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, 2016, 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. In countries outside the U.S., other or similar tax regimes may apply and result in unfavorable tax treatment for any dividends received.

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 us and 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.

Our operations have inherent IT risks

Business and production processes are increasingly dependent on information technology systems. Major disruptions or failure of global or regional business systems may result in the loss of data and/or impairment of business and production processes. QIAGEN has established a global IT organization with rules and regulations that define the relevant roles and responsibilities, and also works with external partners that provide certain operative IT functions. Technical precautions have been established together with our IT service providers to address this risk.

Performance Review

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.

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 our three priority focus areas of oncology, infectious diseases and immune monitoring
- 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, 2016, we employed approximately 4,700 people in more than 35 locations worldwide.

Recent Acquisitions

We have made a number of strategic acquisitions since 2014, targeting innovative technologies to achieve market-leading positions in high-growth areas of molecular diagnostics and research. These transactions have expanded our product offerings and technology platforms, as well as our geographic presence. They include:

- 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.

- During 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. On June 28, 2016, we paid DKK 627.4 million ($95.2 million) for approximately 94.52% of the outstanding common shares of Exiqon. We acquired the remaining Exiqon shares subsequent to the acquisition date for $5.5 million in cash and held 100% of the shares as of December 31, 2016.

- In November 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 March 2015, we acquired an innovative technology that enables enrichment and molecular analysis of circulating tumor cells (CTCs) from blood samples from AdnaGen GmbH, a subsidiary of Alere Inc. 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, with the exception of 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 made a tender offer to acquire the remaining QIAGEN Marseille shares. We acquired those shares during 2015 and 2016 and held 100% of the QIAGEN Marseille shares as of December 31, 2016.

- In December 2014, we acquired the enzyme solutions business of Enzymatics, a U.S. company whose products are used in an estimated 80% of all next-generation sequencing workflows. The broad Enzymatics portfolio complements QIAGEN's leading offering of universal NGS products, advancing our strategy to drive the adoption of NGS in clinical healthcare.

- In April 2014, we acquired BIOBASE, a provider of expertly curated biological databases, software and services based in Wolfenbüttel, Germany, expanding our bioinformatics solutions with BIOBASE content including gold-standard data in the fields of inherited diseases and pharmacogenomics. QIAGEN integrated the BIOBASE content into our Ingenuity Knowledge Base, adding value for customers in interpreting genomic data from next-generation sequencing.

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 2016, 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, 2016, Compared to 2015

Net Sales

In 2016, net sales grew 4% to $1.34 billion compared to $1.28 billion in 2015, including two percentage points of adverse currency movements. Excluding the effect of adverse currency movements, organic business expansion contributed four percentage points to total sales growth while nearly two percentage points of additional growth came from the December 2015 acquisition of MO BIO Laboratories Inc, a leader in sample technologies for metagenomics and microbiome analysis, and the June 2016 acquisition of Exiqon A/S, a leader in RNA analysis technologies. Excluding the expected impact of sharply lower U.S. sales of HPV tests, which created approximately two percentage points of headwind, as well as the effect of adverse currency movements, net sales rose approximately 8% in 2016. All regions and customer classes supported higher sales of consumables and related revenues (+5%/87% of sales) and instruments (+3%/13% of sales).

Geographic regions [8]: The Asia-Pacific/Japan region led the geographic performance with 10% growth in 2016 reflecting adverse currency movements of one percentage point of sales growth, benefiting from key contributions from China, South Korea and India. The Americas advanced at a faster pace (+6%) when excluding U.S. HPV test sales on higher sales of the QuantiFERON-TB test and improved conditions among Life Science customers. Europe/Middle East/Africa advanced 4% reflecting adverse currency movements of approximately four percentage points of sales growth while experiencing expansion in markets such as France, the United Kingdom, Turkey and the Middle East. Turkey, China, South Korea, India and Brazil were key contributors (+13%/16% of sales) when excluding adverse currency movements of 6 percentage points.

[8] **Net sales by geographic region**

			Full-year 2016
	Sales (In $ m)	**% change**	**% of sales**
Americas[1]	$627	4%	47%
Europe/Middle East/Africa	$428	4%	32%
Asia-Pacific/Japan	$279	10%	21%
Top 7 emerging markets[2]	$209	13%	16%

1 Americas excluding U.S. HPV (+6%)

2 Top 7 emerging markets: Brazil, Russia, India, China, South Korea, Mexico and Turkey.

FY 2016: Rest of world represented less than 1% of net sales.

Customer classes [9]: An overview of performance in QIAGEN's four customer classes:

[9] **Net sales by product category and customer class**

			Full-year 2016
	Sales (In $ m)	% change	% of sales
Consumables and related revenues	$1,166	5%	87%
Instruments	$172	3%	13%
Molecular Diagnostics[1]	$663	4%	50%
Of which: U.S. HPV test solutions	*$33*	*–29%*	*3%*
MDx excluding U.S. HPV[1]	*$630*	*7%*	*47%*
Applied Testing	$120	5%	9%
Pharma	$262	5%	19%
Academia	$293	4%	22%

1 Includes companion diagnostic co-development revenues ($32 million, –8%)

Molecular Diagnostics, which contributed approximately 50% of net sales, expanded by 4% in 2016 reflecting adverse currency movements of three percentage points of sales growth. The core portfolio delivered approximately 10% growth before adverse currency impacts and the ongoing decline in sales of U.S. HPV test products (–29%/3% 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.

Applied Testing represented approximately 9% of net sales, grew 5% in 2016 compared to 2015 with adverse currency movements resulting in a loss of two percentage points of sales growth. Before negative currency impacts, Applied Testing advanced on high-single digit growth rates for instruments while consumables and related revenues grew at mid-single digit rates.

Pharma experienced 5% sales growth in 2016 compared to 2015 with adverse currency movements resulting in a loss of two percentage points of sales growth and provided 19% of net sales. Pharma grew on high-single digit growth rates for consumables and related revenues while instruments maintained a mid-single digit rate during the course of the year before negative currency impacts.

Academia represented approximately 22% of net sales and rose 4% in 2016 compared to 2015 with negligible adverse currency movements. Before negative currency impacts, Academia advanced on a mid-single digit growth rate for consumables and related revenues while all regions showed gains in this customer class in 2016.

Gross Profit

Gross profit was $844.7 million, or 63% of net sales, in 2016, compared with $826.7 million, or 65% of net sales, in 2015. 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 fluctuations in gross margin between periods. Gross profit in 2016 was impacted by lower gross margins for companion diagnostic partnerships. Further, gross profit in 2016 was impacted by impairment charges of $12.0 million recognized in connection with our 2016 restructuring. 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 insourcing of the manufacturing of our QuantiFERON product to our U.S. production 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 slightly to $80.1 million in 2016 from $84.5 million in 2015. Acquisition-related intangible amortization would increase in the future should we make further acquisitions.

Research and Development

Research and development expenses increased by 20% to $176.1 million (13% of net sales) in 2016, compared to $146.8 million (11% of net sales) in 2015. The increase in 2016 includes $26.4 million in restructuring costs related to internal restructuring activities, including personnel related and asset impairment costs. During 2015, we introduced our GeneReader NGS System and continue to invest in research and development as we develop a range of upgrades and enhancements to address new applications and market segments. We also plan to introduce additional cancer-related gene panels, with longer-term expansion of the NGS content menu beyond oncology. The increase in research and development costs during 2016 also reflects our ongoing investments in NGS and our life sciences portfolio, as well as our acquisitions of MO BIO in late 2015 and Exiqon in 2016 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 increased 12% to $401.4 million (30% of net sales) in 2016 from $359.6 million (28% of net sales) in 2015. The increase in 2016 includes $24.9 million in restructuring costs related to internal restructuring activities, including personnel related and advisory costs. Additionally, sales and marketing expenses were higher as a percentage of sales in 2016 as compared to 2015 to support commercialization of growth drivers and geographic expansion. Sales and marketing expenses are primarily associated with personnel, commissions, advertising, trade shows, publications, freight and logistics expenses, and other promotional expenses. In 2016, we continued investments in our commercialization activities related to our sales force, in particular the addition of sales representatives for QuantiFERON TB and the life sciences markets. We have also continued our e-commerce initiatives as well as investments to expand our presence in markets such as the Middle East and Asia. These incremental investments more than offset favorable currency impacts and lower compensation costs following a 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 restructuring project initiated in the fourth quarter of 2016.

General and Administrative, Integration and Other

General and administrative, integration and other costs increased by 27% to $129.2 million (10% of net sales) in 2016 from $102.1 million (8% of net sales) in 2015. In 2016, acquisition and integration costs totaled $31.1 million, of which $6.3 million related to the transaction costs incurred in connection with the acquisition of Exiqon A/S. In 2015, acquisition and integration costs totaled $13.9 million, of which $7.5 million related to the transaction costs incurred in connection with the acquisition of MO BIO Laboratories. 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. Additionally, the increase in 2016 includes $4.9 million in restructuring costs related to internal restructuring activities, including severance and retention costs. The increase in general and administrative, integration and other costs also reflects an increase of $5.1 million related to share-based compensation expense as 2015 includes the impact of lower share based compensation costs following a reassessment of stock units with performance criteria. As we further integrate the acquired companies and pursue other opportunities to gain efficiencies, we expect to continue to incur additional business integration in 2017. Over time, we believe the 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 2016, amortization expense on acquisition-related intangibles within operating expense increased to $39.1 million, compared to $38.7 million in 2015. We expect acquisition-related intangible amortization will increase as a result of our future acquisitions.

Other Income (Expense)

Total other expense, net was $41.9 million in 2016, compared to $43.2 million in 2015. 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, 2016, interest income increased to $6.8 million from $4.8 million in 2015. 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 $39.0 million in 2016, compared to $37.4 million in 2015. Interest costs primarily relate to debt, discussed in Note 15 in the accompanying consolidated financial statements.

Other expense, net was $9.7 million for the year ended December 31, 2016, and includes 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. Included in $10.6 million of other expense, net in 2015 is a $7.6 million loss recognized on the repurchase of the $130.5 million loan payable to and warrant agreement with QIAGEN Finance. For the year ended December 31, 2016, we recorded net losses on foreign currency of less than $0.1 million compared to $0.5 million in 2015 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 2016 and 2015, our effective tax rates were (41.1)% and 4.7%, respectively. The comparison is impacted by pre-tax book income which was lower in 2016 at $56.9 million compared to $136.3 million in 2015. 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. In 2016 and 2015, 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 2016 Annual Report on Form 20-F filed 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) gain on foreign currency transactions in 2016 was less than $ (0.1) million and in 2015 and 2014 was $ (0.5) million, and $ 1.9 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 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, 2016 and 2015, we had cash and cash equivalents of $ 439.2 million and $ 290.0 million, respectively. We also had short-term investments of $ 93.0 million at December 31, 2016. 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, 2016, cash and cash equivalents had increased by $ 149.2 million from December 31, 2015, primarily as a result of cash provided by operating activities of $ 341.6 million, partially offset by cash used in financing activities of $ 10.6 million and cash used in investing activities of $ 179.1 million. As of December 31, 2016 and 2015, we had working capital of $ 729.1 million and $ 693.0 million, respectively.

Operating Activities. For the years ended December 31, 2016 and 2015, we generated net cash from operating activities of

$341.6 million and $317.5 million, respectively. While net income was $80.3 million in 2016, non-cash components in income included $213.1 million of depreciation and amortization and $44.4 million acquisition related and restructuring costs, primarily asset impairment and disposal costs incurred in connection with the restructuring program initiated in the fourth quarter of 2016.

Operating cash flows include a net decrease in working capital of $1.3 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, partially offset by increased accrued liabilities and 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 $179.1 million of cash was used in investing activities during 2016, compared to $146.2 million during 2015. Investing activities during 2016 consisted principally of $496.3 million for purchases of short-term investments, $74.5 million in cash paid for purchases of property and equipment, as well as $19.4 million paid for intangible assets and $23.4 million paid for strategic investments in privately and publicly held companies as discussed in Note 10, partially offset by $533.8 million from the sale of short-term investments. Cash paid for acquisitions, net of cash acquired, of $90.5 million primarily represents the total cash paid for the acquisition of Exiqon A/S, net of acquired cash.

Financing Activities. Approximately $10.6 million of cash was used in financing activities for the year ended December 31, 2016 compared to $258.6 million in 2015. Cash used during 2016 consisted primarily of $6.7 million for the repayment of debt assumed via the acquisition of Exiqon, as well as other financing activities including $3.1 million paid for contingent consideration and $5.5 million for the acquisition of the remaining noncontrolling interests of Exiqon. Cash used during 2015, was mainly due to the repayment of the long-term debt of QIAGEN Finance of $250.9 million as discussed in Note 15 "Lines of Credit and Debt." Additionally, cash used during 2015 included $20.8 million for the purchase of treasury shares which was partially offset by $10.3 million for the issuance of common shares in connection with our stock plan.

Other Factors Affecting Liquidity and Capital Resources

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, 2016. 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 €36.6 million with no expiration date, none of which were utilized as of December 31, 2016. We also have capital lease obligations, including interest, in the aggregate amount of $2.7 million, and carry $1.1 billion of long-term debt, of which no amounts are current as of December 31, 2016.

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 and the 2021 Notes, collectively as the "Cash Convertible Notes" which are discussed fully in Note 15 to the consolidated financial statements. Interest on the Cash Convertible 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 $27.6 million based on the achievement of certain revenue and operating results milestones as follows: $15.5 million in 2017, $5.1 million in 2019, and $7.0 million, payable in any 12-month period from now until 2029 based on the accomplishment of certain revenue targets. Of the $27.6 million total contingent obligation, we have assessed the fair value at December 31, 2016, to be $8.8 million, of which of which $5.8 million is included in other long-term liabilities and $3.0 million is included in accrued liabilities in the accompanying balance sheet as of December 31, 2016.

In 2013, we announced a share buyback program, to purchase up to 100 million of our Common Shares (excluding transaction costs). We completed the share repurchase program in June 2014 having repurchased between September 2013 and June 2014 a total of approximately 4.4 million QIAGEN shares for a total aggregate cost of $100.4 million (including performance fees).

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 January 2017, we completed a synthetic share repurchase that combined a direct capital repayment with a reverse stock split. The transaction was announced in August 2016 and involved an approach used by various large, multinational Dutch companies to provide returns to shareholders in a faster and more efficient manner than traditional open-market purchases. $244.0 million was returned to shareholders through the transaction, which reduced the total number of issued common shares by approximately 3.7% to 230.8 million (of which 4.95 million in treasury) as of January 31, 2017. We announced additional share repurchases to take place via the open market during the remainder of 2017, with a view to return an aggregate amount of $300 million to our shareholders.

Repurchased shares will be held in treasury in order to satisfy various obligations, which include the warrants issued in connection with the issuance of our Cash Convertible Notes and 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 and QIAGEN Euro 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, 2016, 2015 and 2014.

Contractual Obligations

As of December 31, 2016, our future contractual cash obligations are as follows: [10]

[10] **Contractual Obligations**

		Payments due by period					
	Total	**2017**	**2018**	**2019**	**2020**	**2021**	**Thereafter**
$ 1,000							
Long-term debt[1]	1,161,611	18,869	18,869	493,339	14,928	275,249	340,357
Purchase obligations	95,276	61,643	19,824	12,257	891	661	—
Operating leases	38,602	13,338	9,292	6,121	3,752	3,409	2,690
License and royalty payments[2]	65,502	15,969	11,562	10,702	10,438	8,066	8,765
Capital lease obligations[3]	2,719	1,114	1,534	59	12	—	—
Total contractual cash obligations	**1,363,710**	**110,933**	**61,081**	**522,478**	**30,021**	**287,385**	**351,812**

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

2 As of December 31, 2016, $ 14.8 million and $ 40.3 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 $ 27.6 million based on the achievement of certain revenue and operating results milestones as follows: $ 15.5 million in 2017, $ 5.1 million in 2019 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, 2016, we have accrued $ 8.8 million for these contingent payments of which $ 5.8 million is included in other long-term liabilities and $ 3.0 million is included in accrued and other current liabilities.

Liabilities associated with uncertain tax positions, including interest and penalties, are currently estimated at $ 19.8 million as of December 31, 2016 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.

Human Resources

Overview

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 becoming an employer of choice and further enhancing our position as a great place to work. At the end of 2016, QIAGEN had 4,684 full-time equivalent employees, a 3% increase from 4,559 at the end of 2015. [12] Total personnel expenses excluding share-based compensation in 2016 were $433 million compared to $389 million in 2015.

Code of Ethics

QIAGEN has in place a Code of Conduct which qualifies as a code of ethics, as required by SEC and NASDAQ Marketplace Rules. 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.

Training and Retention

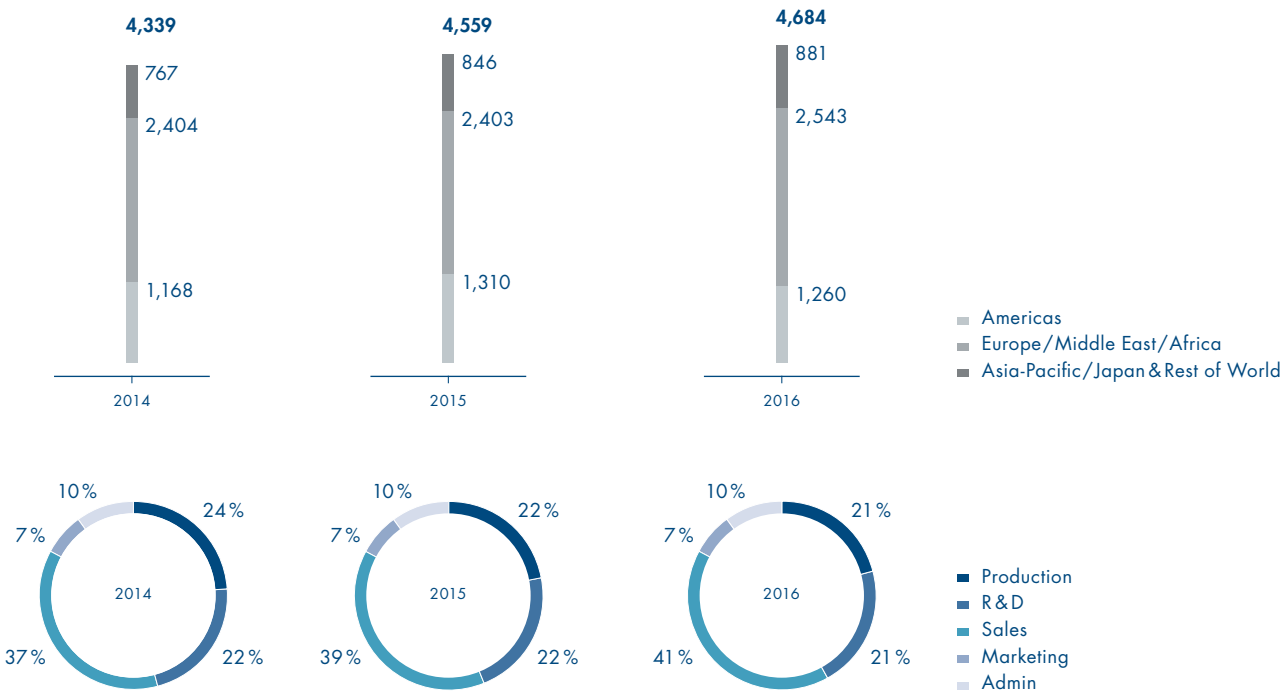
At QIAGEN, we recognize that employees are our most important resource. Their exceptional talent, skill, and passion are key to our long-term success and corporate value. Employee development is therefore viewed as an integral success factor in creating lasting value for our customers, patients, colleagues, partners, and shareholders.

QIAGEN maintains a transparent framework, the QIAGEN Profile Navigator (QPN), to make career paths, job requirements and performance expectations clear based on objective criteria for all positions across our growing global organization. Our global Performance Enhancement System (PES) provides all employees and their managers with regular, one-on-one review sessions to discuss career development topics. PES sessions include discussion of an employee's goals and achievements, training needs and interests, career planning drawing upon the QPN role profile system, organizational development, and results of regular "180° surveys." Professional training and development are an ongoing process for all employees, tailored to different career paths. An employee's pursuit of training cycles from PES session to training participation, review, follow-up, and back to PES review. QIAGEN's compensation structure (see below) ties in with the QPN role profiles and PES performance evaluations.

Management Campus (MC)

This program, composed of three components, is designed to ensure the ongoing development of QIAGEN's future management generations. MC for Starters prepares high-performing employees to take an initial leadership position. The program provides leadership basics and an overview of relevant business management topics. MC I accelerates the careers of our professionals by providing further insights into advanced leadership and management topics while focusing on individual development and business-related innovative actions. MC II is a senior executive program that is designed to increase the leadership skills and management knowledge of outstanding QIAGEN senior managers by a more individual development approach. The program mainly focuses on

[11] **Employees Worldwide**



leadership coaching sessions, as well as on business-related innovative actions.

QIAGEN Executive MBA Program

To support our future growth, QIAGEN offers employees the opportunity to participate in the QIAGEN Executive MBA Business Integration Program in cooperation with the University of Würzburg, Germany. The program provides professionals with a wide range of management skills and knowledge, which are key to an executive career in the industry and at QIAGEN in particular. Participants study in an international environment with colleagues from around the world. Two modules are conducted with partner universities in the U.S.: at Boston University in Boston, Massachusetts, and at Florida Gulf Coast University in Fort Myers, Florida. By the end of 2018, a total of 76 QIAGEN employees will complete the MBA program.

QIAGEN Academy

To support all QIAGEN employees in individual development, QIAGEN has implemented an online learning management system (LMS), the QIAGEN Academy. It manages the entire training process from enrollment to certificate conveniently in one platform. The QIAGEN Academy is available to every

employee 24/7 via the internet. Continual access to all training materials at any time allows employees to blend different learning methods such as virtual classrooms, web-based training, videos or classroom training into holistic and sustainable learning concepts. We offer a huge training catalog with a wide range of development options aligned to our competency model. This includes courses in soft skills, product training and training in QIAGEN-specific processes.

Compensation System

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.

It is critical for QIAGEN to offer attractive compensation packages on a global basis. According to the QIAGEN philosophy, an employee who achieves his or her performance objectives should generally be awarded compensation comparable to the median levels of compensation provided by relevant benchmark companies. QIAGEN participates in various compensation benchmarking surveys that provide information on the level and mix of compensation awarded by various 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. Performance metrics used for these goals include the achievement of targets for net sales, adjusted operating income and free cash flow. In 2016, the payments for short-term variable compensation were based on 90% achievement of the business goals.

Compensation for a significant majority of employees worldwide includes fixed base compensation and benefits, which vary according to local market customs, as well as a short-term variable cash bonus. The level of fixed compensation is paid in cash, usually on a monthly basis, and is designed to provide the employee with a reasonable standard of living relative to the compensation offered by peer companies. The amount of short-term variable cash bonus is designed to reward performance, with the payout amount based on the achievement of overall corporate financial results as well as individual performance against a written set of objectives.

For the Chief Executive Officer the target annual short-term variable cash bonus is set at 57.6% of the annual base salary and the maximum is equivalent to 87.8% of the annual base salary. The Chief Financial Officer has a target annual short-term variable cash bonus set at 41.2% with the maximum being equivalent to 62.8% of the annual fixed salary. Furthermore, to align our compensation programs with the interests of shareholders, senior executives receive a portion of their total compensation in the form of long-term compensation, which is granted as equity as a reward for performance. These grants are determined on an individual basis and approved by the Compensation Committee. These equity grants are made in the form of Performance Stock Units (PSUs) with a staggered vesting period typically over three (40%), five (50%) and 10 years (10%).

Work-Life Balance

QIAGEN offers services to help employees balance their personal life with our dynamic and driven work environment, including in-house corporate childcare and sabbatical programs, as well as company-sponsored fitness and health facilities, and programs. Flexible working hours apply to all employees except for functions that require on-time presence.

Workplace Health

In today's business climate, the health of employees is often directly related to the health of the company. Increased job satisfaction, improved morale, reduced injuries, and increased productivity are just some of the benefits which a healthy work environment can have. At its headquarters, QIAGEN regularly offers "health days" where all employees are invited to receive free counsel and to participate in screening and nutrition programs, medical check-ups, etc. QIAGEN provides in-house gyms open to all employees, sports courses coached by professional trainers, and on-site soccer fields and beach volleyball courts, all free of charge. All female employees have free access to screening for HPV, the primary cause of cervical cancer.

Sustainability

QIAGEN integrates sustainability throughout our business. We aim to save energy and reduce environmental impacts, drive economic success with healthy, high-performance workplaces, and make improvements in life possible as a good corporate citizen. [12]

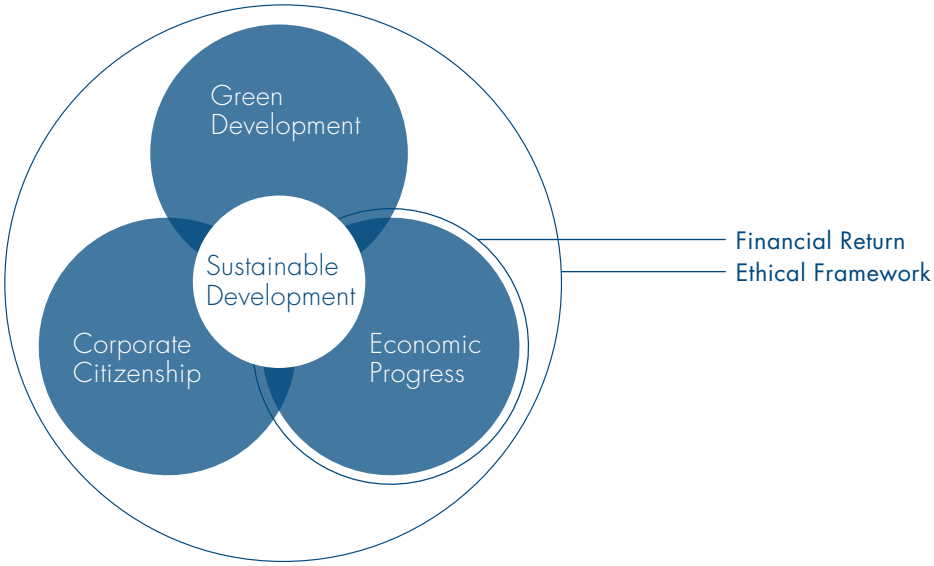
These three dimensions of sustainability are interlinked, reinforcing each other. We pledge to continually evaluate the potential green impact of our business, its economic influence and our corporate citizenship around the world. Our commitment to sustainability does not stop with formal regulations. As a market and innovation leader in life sciences and molecular diagnostics, we strive to go above and beyond simply following requirements of environmental and labor laws. There is much room for innovation in driving sustainable development in our industry, and we are resolved to continue to move forward.

Green Practices

Protecting the environment, health and safety has always been a hallmark of QIAGEN. From the start, our sample preparation products set the standard for safe, environmentally sound methods, replacing highly toxic procedures that once posed serious threats to laboratory workers' health and the environment. Today, our commitment to protect and preserve natural resources extends well beyond product safety. Green practices are actively reducing the environmental impact of QIAGEN's business around the world. These initiatives include:

- Energy savings: QIAGEN has installed sophisticated energy recovery and control systems in office and operational locations to provide only the minimum power required. Use of power-friendly lighting, air conditioning and manufacturing equipment; sustainable selection of suppliers; and optimized operating hours contribute to energy efficiency.
- Green buildings: Energy savings play a major role in site investments, implementing green standards by incorporating specifications for energy and water efficiency, air quality and materials. For example, new buildings at regional headquarters in Germany and the United States have achieved certifications under the U.S. Green Building Council's LEED program
- Paper reduction: To support responsible paper consumption, QIAGEN pursues a broad policy of reducing printed material, as well as sustainable sourcing. As a member of the Forest Stewardship Council, QIAGEN's policy is to select suppliers that comply with FSC standards for printing and sustainable paper production. Digital approaches to doing business are a major focus, and online tools and eCommerce can make paper unnecessary.
- Packaging: QIAGEN's procurement division requires suppliers requiring them to reduce packaging volumes, refraining from use of PVC and other potentially hazardous materials. Biodegradable loose fill packaging is made from 100% recycled polystyrene. Since 2013, QIAGEN has substantially reduced kit volumes by using fewer inserts and optimizing design
- Recycling: At most QIAGEN sites, waste reduction and recycling of cardboard, paper and the like are standard business practices – part of our commitment to conduct operations in a sustainable manner and in accordance with regulations.
- Water consumption: Recognizing water as a precious resource, our main administration and production facility in the United States now uses "process" water produced during manufacturing to cool the building. Hand-activated faucets have been installed in all restrooms, and water coolers have been replaced with filtered water dispensers.

[12] **QIAGEN's Sustainability Approach**



- Transportation: QIAGEN provides incentives for employees to use public transportation, has installed e-charging stations for cars and bikes, and selects ecological and CO_2-efficient vehicles as company cars. We have placed manufacturing machines at some suppliers' sites to reduce transportation-related impacts on the environment.

- Organizational commitment: Our operations employ a concept called QIAzen, derived from the Japanese word KAIZEN, which means continuous improvement. By optimizing operational workflows throughout manufacturing and production, QIAGEN reduces transportation, saves electricity and minimizes other impacts.

Economic Progress

QIAGEN contributes to society's economic sustainability primarily by nurturing long-term business success. Our mission extends beyond creating shareholder value to making improvements in life possible for global and local stakeholders – providing jobs, driving growth, enhancing healthcare and other areas of life, and funding public services. Lasting success demands the efficient use and sustained cultivation of all of our assets and resources. Examples of initiatives and programs include:

- Training and retention: QIAGEN views employee development as an integral success factor in creating lasting value. Professional training and leadership development are an ongoing process reaching all employees – cycling from annual performance reviews and development discussions, to training participation and learning transfer, and then back to individual reviews. A series of regional training programs are designed to create a work environment of employee empowerment and engagement at all levels.

- Business development: QIAGEN follows a rigorous process to take advantage of rapid growth opportunities in emerging markets, methods and customer segments. The strategy includes acquisitions of promising new molecular testing technologies and commercial collaborations to support strong organic growth and drive future profitability.

- Innovation: Just as QIAGEN's sample kits revolutionized molecular biology in the 1980s, we are committed to expanding our global leadership in Sample to Insight solutions. Our research and development investments are among the highest in the industry, with more than 1,000 R&D employees on three continents. To make innovation as effective and efficient as possible, QIAGEN embraces "agile" development, moving through iterative stages to create new products, with rapid adjustments based on empirical feedback. Development of the GeneReader NGS System, for example, benefited from an agile, collaborative process.

Corporate Citizenship

QIAGEN's corporate mission to make improvements in life possible focuses our attention on the long-term welfare of society. Our commitment to Corporate Social Responsibility focuses on open and equal access to lifesaving molecular diagnostics for people around the world, including the poorest regions. We also want to help ensure that communities where we work can flourish, by supporting local initiatives aiming to improve lives in cultural, social or scientific settings. Activities in this area include:

- QIAGEN*cares:* Our Corporate Social Responsibility Program is an umbrella for the support of initiatives that help improve lives by aiding in the fight against diseases in which QIAGEN products can play an important role. While QIAGENcares includes a broad range of initiatives, we have a strong commitment to fighting cervical cancer through testing for human papillomavirus (HPV) infections and have launched a donation program for 1 million HPV tests to bring advanced cervical cancer screening to developing countries.

- Local initiatives: QIAGEN supports a variety of initiatives in places where the company does business. These range across sponsorship of health walks, music festivals, preschool science education, disease awareness campaigns, installation of school laboratories and promotion of biology in school curricula. In some locations we have programs to mobilize employees to volunteer (backed by company funds) for projects that improve the lives of people in local and national communities. We also collaborate with scientists in novel environmental and humanitarian projects made possible by QIAGEN technologies.

- Employee programs: QIAGEN regularly provides services and programs to promote employees' health and help them balance their personal lives with a dynamic, high-performance work environment. QIAGEN offers in-house corporate childcare, sabbatical programs, and company-sponsored fitness and health facilities.

More information about QIAGEN's activities and the progress we are making is available online at www.QIAGEN.com/about-us/who-we-are/sustainability/.

Future Perspectives

QIAGEN Perspectives for 2017

QIAGEN expects to sustain solid sales growth and increase profitability in 2017 and beyond, building its leadership in molecular testing with an innovative offering of differentiated Sample to Insight solutions across the value chain. Providing end-to-end solutions is a key competitive advantage in serving customers ranging from clinicians using Molecular Diagnostics to researchers in Academia and the pharmaceutical industry, as well as laboratories in human ID/forensics, veterinary diagnostics and food safety. QIAGEN is executing on strategies to further enhance financial performance and returns to shareholders from 2017 to 2020. While sustaining top-line growth with targeted investments in innovation and commercial support, QIAGEN has initiated a series of actions to deliver on operating leverage and to increase profitability and cash flows. Priorities also include optimizing the balance sheet for shareholder returns and refining a performance-driven culture. [13]

The drive to excel through 2020 begins with the new sales trajectory of QIAGEN's differentiated product portfolio, focusing on a group of catalysts that generated double-digit growth and more than one-third of total sales in 2016. These engines of sales growth include: adding to QIAGEN's long-standing leadership in innovative core technologies for sample processing; expanding the market for QuantiFERON-TB technology in support of tuberculosis control; driving the adoption of next-generation sequencing in clinical research and diagnostics; extending QIAGEN's leadership in Personalized Healthcare for cancer and other diseases; increasing placements of the QIAsymphony platform and sales of a growing menu of test content; and deepening QIAGEN's industry leadership in bioinformatics, integrated into Sample to Insight solutions for clinical and other molecular applications.

Differentiated technologies help laboratories process samples to extract, purify and stabilize the highest-quality nucleic acids for molecular testing. In 2016 QIAGEN further expanded its offering in rapidly growing areas such as minimally invasive liquid biopsies for analysis; Digital NGS solutions for quantification of DNA, RNA and miRNA in next-generation sequencing; studies of microbial communities and their impact on health and the environment; RNA analysis, gene expression and epigenetics; and single-cell research. In 2017 and beyond, QIAGEN expects to continue to add emerging technologies addressing front-end challenges in high-growth areas of molecular testing.

QuantiFERON-TB tests for latent tuberculosis infection accelerated to a growth pace of more than 25% CER in 2016. As healthcare authorities around the world launch proactive initiatives to eliminate tuberculosis (TB), modern QuantiFERON technology is displacing the century-old tuberculin skin test as the latent TB test of choice. Our fourth-generation test, QuantiFERON-TB Gold Plus, was submitted in late 2016 to the U.S. Food and Drug Administration, following successful launch in more than 60 countries. Recent guidelines from the World Health Organization and U.S. Preventive Services Task Force support the growth momentum, and QIAGEN plans to invest further to accelerate geographic expansion and drive conversion of the market to the QuantiFERON-TB tests.

Next-generation sequencing (NGS) is rapidly emerging from elite research labs into routine applications in clinical research and diagnostics, and QIAGEN is in the forefront of this move to the mainstream. In 2016 QIAGEN launched its GeneReader NGS System, the first purpose-built system for clinical panel testing with next-generation sequencing. GeneReader met its first-year target of more than 10% of new placements of benchtop sequencers for oncology, and in 2017 QIAGEN is rolling out significant performance enhancements and additional gene panels. The new goal is a 20% total share of the

[13] **Factors driving long term value creation**

NGS clinical market by 2020. QIAGEN also continues to expand its portfolio of "universal" pre-analytical solutions that serve an estimated 80 % of all NGS workflows worldwide.

Personalized healthcare is expanding as genomic insights increasingly guide treatments across the spectrum of cancers, and personalized therapies based on molecular testing also are developing in other disease areas. QIAGEN offers a broad portfolio of companion diagnostics and is rolling out more, often partnering with pharmaceutical and biotech companies to co-develop companion diagnostics paired with their drugs. In 2016 QIAGEN surpassed 20 master collaboration agreements with pharma partners and aim to secure more than 50 % of the industry's partnering arrangements by 2020. QIAGEN is the only industry partner developing companion diagnostics for both PCR and NGS platforms, as well as other innovative molecular technologies for personalized medicine.

QIAsymphony meets a broad range of customer needs for medium-throughput automation in sample processing, analysis with polymerase chain reaction (PCR), and reporting of insights. In 2016 QIAsymphony surpassed its target of 1,750 cumulative placements, serving as a growth engine with double-digit sales gains in consumables. New applications in 2016 included automating liquid biopsy workflows and serving as a front end for the GeneReader. In 2017, the goal is to reach 2,000 cumulative placements. QIAGEN will continue to expand QIAsymphony's industry-leading menu of diagnostic tests in Europe and other markets, with a U.S. focus on running laboratory-developed tests and processing samples for NGS or PCR.

Bioinformatics for QIAGEN is both a stand-alone business with industry-leading software to analyze and interpret genomic data – and a seamlessly integrated capability to deliver the "insights" in Sample to Insight solutions. In 2016 QIAGEN added RNA-seq Explorer for customers in the rapidly growing field of RNA analysis, introduced the Microbial Genomics Pro Suite for the special challenges of interpreting metagenomic data, and integrated QIAGEN Clinical Insight into the GeneReader NGS System for seamless reporting of actionable insights in clinical research and diagnosis. In 2017 QIAGEN will continue to expand and scale its bioinformatics capabilities to meet emerging needs in genomic analysis and interpretation, data sharing and reporting for research and clinical care.

In 2016 QIAGEN's growth portfolio overcame the smaller expected headwind from the U.S. market for cervical cancer screening, where QIAGEN has maintained market leadership but lost revenue due to aggressive price competition in recent years. In 2017 the headwind is expected to shrink further to about one percentage point of net sales.

In addition to focusing on growing market needs with innovative Sample to Insight solutions, QIAGEN will continue to implement actions to engage customers through digital and other channels, simplify and streamline its organization, and maximize value for shareholders.

Global Economic Perspectives for 2017

The consensus outlook for the world economy is a modest acceleration of growth in 2017 amid positive expectations for the United States and emerging markets. Global GDP is forecast by the World Bank to grow 2.7% in 2017 and 2.9% in 2018, up from estimated growth of 2.3% in 2016. After slow growth in 2016 due to weak commodity prices and global trade, economists now anticipate stronger trade based on oil and other commodities, plus acceleration in U.S. investment and manufacturing. However, uncertainties have increased amid political changes and evolving policies. The U.S. election created unknowns in fiscal and trade policies, and an economic setback could have ripple effects. Europe faces continued modest growth, as well as political unrest. China is expected to continue gradual cooling of its rapid growth with planned rebalancing toward consumer-driven activity. Japan remains in a lower-growth trend. A stronger global economy would stimulate demand in QIAGEN's business environment, but a downturn could hurt customers' spending. Economic changes affecting currency exchange rates also pose a risk to results reported in U.S. dollars.

Industry Perspectives for 2017

Genomic discoveries, dissemination of molecular testing in healthcare and other fields, and the rapid growth of next-generation sequencing and novel molecular testing approaches all present opportunities for QIAGEN in 2017 and beyond.

Molecular diagnostics is the most dynamic segment of the global *in vitro* diagnostics market, growing at a compound annual rate in the high single digits or low double digits overall – faster in the most promising fields. Healthcare providers are adopting molecular testing more routinely to evaluate and monitor patients for cancer, infectious diseases and other conditions, taking advantage of the superior accuracy and speed of molecular diagnostics. In addition to use of centralized laboratories, hospitals are adopting on-site analysis of molecular tests for quick, accurate results. Efficient automated workflows and standardized test kits are adding scale and reducing costs, while reimbursement practices continue to evolve. NGS also is moving into healthcare, a change that requires easy-to-use technologies, regulatory approvals and decision-support software to transform genomic data into actionable insights.

In Academia and the Pharma industry, novel sample and sequencing technologies are expanding discovery of disease pathways and biomarkers, as well as providing valuable data in drug development and clinical trials. Use of molecular testing also is expanding for protection of public safety in forensics, food supply chains and environmental monitoring.

Subsequent Events

Acquisition

In January 2017, we acquired OmicSoft Corporation, a privately owned bioinformatics company, that markets a suite of tools that allow customers to analyze and visualize data sets and compare them to large, publicly available multi-omics data sets. The acquisition was not individually significant to the overall consolidated financial statements.

Synthetic Share Repurchase

In January 2017, QIAGEN completed a synthetic share repurchase that combined a direct capital repayment with a reverse stock split as discussed in Note 17 *Equity* in the Notes to the Consolidated Financial Statements.

Corporate Governance and Compensation

Corporate Governance and Compensation

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 NASDAQ 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 NASDAQ 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.

Our Managing Directors for the year ended December 31, 2016 and their ages as of January 31, 2017, are as follows: [1]

[1] **Managing Directors**

Name	Age	Position
Peer M. Schatz	51	Managing Director, Chief Executive Officer
Roland Sackers	48	Managing Director, Chief Financial Officer

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

Peer M. Schatz, 51, joined QIAGEN in 1993, when the Company had just 30 employees and revenues of approximately $2 million, and has been Chief Executive Officer since January 1, 2004. He was Chief Financial Officer between 1993 and 2003 and became a member of the Managing Board in 1998. Mr. Schatz was previously a partner in a private management buyout group in Switzerland, worked in finance and systems positions in Sandoz, Ltd. and Computerland AG, and participated in the founding of start-up companies in the computer and software trading industry in Europe and the United States. Mr. Schatz graduated from the University of

St. Gallen, Switzerland, with a Master's degree in Finance in 1989 and obtained an M.B.A. in Finance from the University of Chicago Graduate School of Business in 1991. Mr. Schatz served as a member of the German Corporate Governance Commission from 2002 to 2012. He is Managing Director of PS Capital Management GmbH. He is a board member of AdvaMedDx, an advocacy dedicated to issues facing the *in vitro* diagnostics industry in the United States and Europe, and ALDA (the Analytical, Life Science and Diagnostics Association), a trade association of developers and suppliers in these fields.

Roland Sackers, 48, joined the Company 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 Master Degree Business Administration (Diplom-Kaufmann) from University of Münster, Germany. 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 is also a non-executive director and chair of the audit committee of Immunodiagnostic Systems Holding PLC (IDS), a leading producer of immunological tests for research and diagnostic applications publicly listed in the United Kingdom.

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. A Managing Director that has a personal conflict of interest will not participate in the decision making process regarding such item. QIAGEN has not entered into any such transactions in 2016. 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.

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 2016, 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 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 Managing Board and the Supervisory Board in which case a simple majority of votes cast is sufficient.

Our Supervisory Directors for the year ended December 31, 2016 and their ages as of January 31, 2017, are as follows: [2]

[2] **Supervisory Directors**

Name[1]	Age	Position
Stéphane Bancel	44	Supervisory Director, Member of the Compensation Committee, Audit Committee and Science and Technology Committee
Dr. Metin Colpan	62	Supervisory Director, Chairman of the Science and Technology Committee and Member of the Selection and Appointment Committee
Prof. Dr. Manfred Karobath	76	Chairman of the Supervisory Board, Supervisory Director, Chairman of the Selection and Appointment Committee, Member of the Compensation Committee, and Member of the Science and Technology Committee
Prof. Dr. Ross L. Levine	45	Supervisory Director and Member of the Science and Technology Committee
Prof. Dr. Elaine Mardis	54	Supervisory Director and Member of the Science and Technology Committee
Lawrence A. Rosen	59	Supervisory Director and Chairman of the Audit Committee
Elizabeth E. Tallett	67	Supervisory Director, Chairwoman of the Compensation Committee, Member of the Audit Committee and Member of the Selection and Appointment Committee

1 Dr. Werner Brandt was a member of the Supervisory Board since 2007 and did not stand for re-election at the Company's Annual General Meeting in June 2016.

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:

Stéphane Bancel, 44, joined the Company's Supervisory Board as well as the Compensation Committee in 2013 and joined the Audit Committee and Science and Technology Committee in 2014. He is Chief Executive Officer of Moderna Therapeutics, Inc., a clinical-stage biotechnology company based in Cambridge, Massachusetts, which is advancing multiple 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. Metin Colpan, 62, is a co-founder of QIAGEN and was the Company's 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 Chairman 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 Qalovis Farmer Automatic Energy GmbH, Laer, 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.

Professor Dr. Manfred Karobath, 76, has been a member of the Supervisory Board since 2000 and joined the Compensation Committee in 2005. In 2016, Prof. Karobath was appointed as Chairman of the Supervisory Board. He has served as a member of our Science and Technology Committee from 2014 to 2016 and joined the Compensation Committee in 2016. He is also the Chairman of the Selection and Appoint-

ment Committee. Prof. Dr. Karobath studied medicine, and from 1967 to 1980 he worked first in the Dept. of Biochemistry of the University of Vienna and, after a stage as postdoctoral fellow, he joined the Dept. of Psychiatry where he became Professor of Biological Psychiatry. In 1980, he joined Sandoz Pharma in Basel, first in drug discovery, and later becoming Senior Vice President and head of R&D. In 1992, Prof. Dr. Karobath joined Rhone Poulenc Rorer (RPR) as President of R&D and Executive Vice President, and later, he became a member of the boards of directors of RPR, Pasteur Mérieux Connought, Centeon and Rhone Poulenc Pharma. He has received several scientific awards and has published 92 scientific papers.

Professor Dr. Ross L. Levine, 45, 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 Director of the Center for Hematologic Malignancies, 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.

Professor Dr. Elaine Mardis, 54, joined the Company's Supervisory Board and its Science and Technology Committee in 2014. 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. Prof. Dr. Mardis has research interests in the application of genomic technologies to improving our understanding of human disease, and toward improving the precision of medical diagnosis, prognosis and treatment. Prof. 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. Prof. Dr. Mardis is a board member of the American Association for Cancer Research, and has scientific advisory roles at the Regeneron Genomics Center, Caperna LLC, and Interpreta LLC. She also serves the U.S. government as a scientific advisor to the Veteran's Administration for the Million Veterans Program. Prof. 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.

Lawrence A. Rosen, 59, joined the Company's Supervisory Board as well as the Audit Committee in 2013 and has served as the committee's chairman since 2014. 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. Mr. Rosen, who is a U.S. citizen, holds a Bachelor in Business Administration from the State University of New York and an M.B.A. from the University of Michigan.

Elizabeth E. Tallett, 67, joined the Company's Supervisory Board as well as the Audit Committee and Compensation Committee in 2011 and since 2016 has served as Chairwoman

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 Principal Financial Group, Inc. (where she is currently the Lead Director), Anthem, Inc. and Meredith Corp. She is a former director of Varian, Inc., Immunicon, Inc., Varian Semiconductor Equipment Associates, Inc., Coventry Health Care, Inc. and IntegraMed America, Inc. Ms. Tallett was a founding board member of the Biotechnology Council of New Jersey and is a Trustee of Solebury School in Pennsylvania.

Dr. Werner Brandt, 63, joined the Company's Supervisory Board in 2007 and was Chairman of the Supervisory Board until June 2016. He was also Chairman of the Selection and Appointment Committee, and he served from 2007 to 2014 as Chairman of the Audit Committee. Dr. Brandt was a member of the Executive Board and the Chief Financial Officer of SAP SE from 2001 until his retirement from SAP in 2014. For some years from 2010 onwards he also held the position of Labor Relations Director. From 1999 to 2001, he was a member of the Executive Board and Chief Financial Officer of the German-American healthcare company, Fresenius Medical Care AG, where he also served as Labor Relations Director. From 1992 to 1999, Dr. Brandt was a member of the Managing Board of Baxter Deutschland GmbH and Vice President for European Operations. Dr. Brandt began his career in 1981 at the former Price Waterhouse GmbH (now PricewaterhouseCoopers) in Frankfurt. Dr. Brandt completed his doctorate in business administration from the Technical University of Darmstadt, Germany in 1991, after studying business administration at the University of Nuremberg-Erlangen, Germany from 1976 to 1981. During his time on the Supervisory Board, Dr. Brandt was also currently Chairman of the Supervisory Board of ProSiebenSat.1 Media AG, a member of the Supervisory Board of Deutsche Lufthansa AG, a member of the Supervisory Board of RWE AG and a member of the Supervisory Board of OSRAM Licht AG (where he is Chairman of the Audit Committee). Dr. Werner Brandt did not stand for re-election at the Company's Annual General Meeting in June 2016.

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, require the approval of the Supervisory Board plenum. A Supervisory Director that has a personal conflict of interest will not participate in the decision making process regarding such item. In 2016, 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.

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 are comprised of the following members: [3]

[3] **Supervisory Board Committees** As of December 31, 2016

Name of Supervisory Director[1]	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			●	●
Prof. Dr. Manfred Karobath		●	●	●
Prof. Dr. Ross L. Levine				●
Prof. Dr. Elaine Mardis				●
Lawrence A. Rosen	●			
Elizabeth E. Tallett	●	●	●	

● Chairman/Chairwoman

1 Dr. Werner Brandt served as the Chairman of the Selection and Appointment Committee until June 2016.

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 Marketplace Rules of the NASDAQ Stock Market. Pursuant to the NASDAQ rules, a majority of the Supervisory Directors must qualify as independent, as defined in the Rules.

Audit Committee

The Audit Committee currently consists of three members, Mr. Rosen (Chairman), Ms. Tallett and Mr. Bancel, 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 Marketplace Rules of the NASDAQ. 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 defined in provisions III.3.2 and III.5.7 of the Dutch Code. 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 2016 and met with the external auditor excluding members of the Managing Board in December 2016. The Audit Committee reviews major financial risk exposures, pre-approves related-party transactions, 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 currently consists of three members, Ms. Tallett (Chairwoman), Professor Karobath and Mr. Bancel. Members are appointed by the Supervisory Board and serve for a term of one year. The Compensation Committee met seven times in 2016.

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. Current members of the Selection and Appointment Committee are Professor Karobath (Chairman), Dr. Colpan and Ms. Tallett. Members are appointed by the Supervisory Board and serve for a one-year term. The Selection and Appointment Committee met one time in 2016.

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 current members of the Science and Technology Committee are Dr. Colpan (Chairman), Professor Karobath, Professor Levine, Mr. Bancel and Professor Mardis. Members are appointed by the Supervisory Board and serve for a term of one year. The Science and Technology Committee met four times in 2016.

Diversity policy

The Dutch government emphasizes the importance for companies to pursue a diversity policy. QIAGEN recognizes the benefits of diversity, including gender balance. However, QIAGEN feels that gender is only one part of diversity and aims to have members in the Managing Board and Supervisory Board with different experiences. QIAGEN's Selection and Appointment committee will continue selecting future members of the Managing Board and Supervisory Board on the basis of wide ranging experience, backgrounds, skills, knowledge and insight.

Compensation of Managing Board Members and Supervisory Directors

Remuneration policy

The objective of our remuneration policy is to attract and retain the talented, highly qualified international leaders and skilled individuals, who enable QIAGEN to achieve its short and long-term strategic initiatives and operational excellence. Our remuneration policy aligns remuneration with individual performance, corporate performance and fosters sustainable growth and long-term value creation in the context of QIAGEN's social responsibility and stakeholders' interest.

The remuneration policy and overall remuneration levels are benchmarked regularly, against a selected group of companies and key markets in which QIAGEN operates, to ensure overall competitiveness. QIAGEN participates in various compensation benchmarking surveys that provide information on the level, as well as the structure, of compensation awarded by various companies and industries for a broad range of positions around the world. The companies in the peer group are selected on the basis of market capitalization, competitors for talent, similar complexity and international spread, operating in similar industries.

The performance of the Managing Board members is measured annually against a written set of goals. The remuneration of the Managing Board members is linked to the achievement of QIAGEN's strategic and financial goals. To ensure that remuneration is linked to performance, a significant proportion of the remuneration package is variable and contingent on performance of the individual and the company. These goals are set at ambitious levels each year to motivate and drive performance, with a focus on achieving both long-term strategic initiatives and short-term objectives based on the annual operative planning. Performance metrics used for these goals include the achievement of financial and non-financial targets.

The remuneration package of the Managing Board members consists of a combination of base salary, short term variable cash award and several elements of long term incentives (together, 'total direct compensation'). In addition, the members of the Managing Board receive a pension arrangement and other benefits that are standard in our industry, such as a company car.

The total target remuneration package of the Managing Board members is appropriately set against a variety of factors which includes external and internal equity, experience, complexity of the position, scope and responsibilities. We aim to provide the members of the Managing Board a total direct compensation at market median level.

The structure of the remuneration package for the Managing Board is designed to balance short-term operational excellence with long-term sustainable value creation while taking into account the interests of its stakeholders. As such a significant part of the total remuneration of the Managing Board members consist of variable remuneration which can differ substantially from year to year depending on our corporate results and individual performance and may include equity-based compensation which may be subject to vesting conditions over a period up to 10 years.

The remuneration policies for the Managing Board and for other senior management members of QIAGEN are generally aligned and consistent.

Managing Board compensation

The compensation granted to the members of the Managing Board in 2016 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 annual payments linked to business performance (annual bonus), as well as long-term equity incentives that were awarded based on individual performance.

In 2014, the General Meeting of Shareholders approved a new remuneration policy for the Managing Board which provides that future 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 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 2013, QIAGEN issued Performance Stock Units that are directly linked with the future achievement of QIAGEN's five-year business plan as well as implemented mandatory minimum holding levels of QIAGEN shares for a group of approximately 50 managers. This program is referred to as the "Commitment Program" The financial targets for vesting of the these Performance Stock Units were based on three-year goals as defined within QIAGEN's five-year business plan covering the period from 2014 until the end of 2016. The targets for vesting were set and approved by the Supervisory Board, and they consist of specific quantitative goals for net sales, earnings before interest and taxes (EBIT), return on invested capital (ROIC) and QIAGEN Value Added (QVA), a steering metric that measures the ability of QIAGEN to generate returns and exceed its cost of capital. Achievement of these 2013 Performance Stock Units was finalized as of December 31, 2016 at 20%. In 2016, a new grant of Performance Stock Units with mandatory minimum holding levels of QIAGEN shares was made under the Commitment Program linked to achievement of a two-year plan covering 2017 and 2018 including quantitative goals for net sales, EBIT, QVA and share price development as compared to peer companies.

Table [4] below state the amounts earned on an accrual basis by our Managing Board members in 2016.

[4] **2016 Compensation Overview** Year Ended December 31, 2016

$ 1,000 except for number of award grants	**Peer M. Schatz**	**Roland Sackers**
Fixed Salary	1,146	514
Other[5]	12	37
Total fixed income 2016	1,158	551
Short-term variable cash bonus[1]	165	53
Total short-term income 2016	1,323	604
Defined contribution on benefit plan	72	74
Number of restricted stock units granted 2016[4]	*21,081*	*7,153*
Related recognized compensation expense	286	97
Number of performance stock units granted 2016[2,3]	*791,869*	*229,383*
Related recognized compensation expense	1,809	421

1 The Variable Cash Bonus amount does not include values which were converted to equity-based compensation.

2 The Performance Stock Units Granted amount includes the number of Performance Stock Units granted to each Managing Board member at his election in lieu of the value of the cash bonus earned by such Managing Board member in 2016. These performance stock units vest over two years from the grant date. In 2016, Mr. Schatz received a grant of 27,677 performance stock units and Mr. Sackers received a grant of 8,884 performance stock units. These 2016 performance grants were achieved at 90% of the targeted vesting amount.

3 The Performance Stock Units Granted amount includes the number of Performance Stock Units granted to each Managing Board member under the Company's Commitment Program. In 2016, Mr. Schatz received a grant of 460,220 performance stock units and Mr. Sackers received a grant of 144,809 performance stock units.

4 In lieu of cash bonus, each Managing Board member elected to receive the value earned in 2015 in restricted stock units which vest over two years from the grant date. In 2016, Mr. Schatz received a grant of 21,081 restricted stock units and Mr. Sackers received a grant of 7,153 restricted stock units.

5 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.

The total recognized compensation expense in accordance with IFRS 2 in the year 2016 (2015) for stock options and stock units including recognized expenses for equity awards granted in previous years as well as for any non-periodical share-based payments in kind of a bonus amounted to $ 9.2 million ($ 6.2 million) for Mr. Schatz and $ 2.7 million ($ 1.9 million) for Mr. Sackers.

Based on such valuations the total compensation including recognized compensation expenses in the year 2016 (2015) for members of the Managing Board was $ 14.0 million ($ 10.1 million), and amounts $ 10.6 million ($ 7.5 million) for Mr. Schatz and $ 3.4 million ($ 2.6 million) for Mr. Sackers. Total non-periodical remuneration according Dutch Civil Code included in total compensation was $ 2.8 million ($ 2.0 million) and amounts $ 2.3 million ($ 1.5 million) for Mr. Schatz and $ 0.6 million ($ 0.5 million) for Mr. Sackers.

Supervisory Board compensation

In early 2014, we conducted a board remuneration benchmark review of 36 peer companies of similar size and complexity in similar industries, including biotechnology, life science supplies, diagnostics and pharmaceuticals. Based on the results of this review, the Supervisory Board remuneration was aligned to the applicable market standards to reflect our nexus to the European Markets as a Dutch company as well as our U.S. focus as a NASDAQ listed company subject to U.S. regulations and the fact that three of the seven Supervisory Board members are residing in the United States.

The Supervisory Board compensation for 2016 consists of fixed retainer compensation and additional retainer amounts for Chairman and Vice Chairman. Annual remuneration of the Supervisory Board members is as follows: [5]

[5] **Annual Remuneration of the Supervisory Board**

Fee payable to the Chairman of the Supervisory Board	$ 150,000
Fee payable to the Vice Chairman of the Supervisory Board	$ 90,000
Fee payable to each member of the Supervisory Board	$ 57,500
Additional compensation payable to members holding the following positions:	
Chairman of the Audit Committee	$ 25,000
Chairman of the Compensation Committee	$ 18,000
Chairman 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.

The following table summarizes the total compensation paid to the members of the Supervisory Board in 2016[1]: [6]

[6] **Annual Remuneration of Individual Supervisory Board Members** Year Ended December 31, 2016

$ 1,000 except for number of share grants	Fixed remuneration	Chairman/ vice chairman committee	Committee membership	Total[2]	Number of restricted stock units granted
Stéphane Bancel	$ 57.5	—	32.0	$ 89.5	10,742
Dr. Werner Brandt[1]	$ 75.0	6.0	—	$ 81.0	10,742
Dr. Metin Colpan	$ 57.5	12.0	6.0	$ 75.5	10,742
Prof. Dr. Manfred Karobath	$ 120.0	15.0	14.5	$ 149.5	10,742
Prof. Dr. Ross L. Levine	$ 28.8	—	3.0	$ 31.8	—
Prof. Dr. Elaine Mardis	$ 57.5	—	6.0	$ 63.5	10,742
Lawrence A. Rosen	$ 57.5	25.0	—	$ 82.5	10,742
Elizabeth E. Tallett	$ 57.5	9.0	23.5	$ 90.0	10,742

1 Dr. Werner Brandt was a member of the Supervisory Board since 2007 and did not stand for re-election at the Company's Annual General Meeting in June 2016.

2 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.

The total recognized compensation expense in accordance with IFRS 2 in the year 2016 (2015) for long-term compensation of stock options and restricted stock units including recognized expenses for equity awards granted in previous years as well as for any non-periodical share-based payments in kind of a bonus amounted to $ 160.2 thousand ($ 66.9 thousand) for Mr. Bancel, $ 213.2 thousand ($ 153.9 thousand) for Mr. Brandt, $ 244.1 thousand ($ 153.8 thousand) for Mr. Colpan, $ 239.3 thousand ($ 202.6 thousand) for Mr. Karobath, $ 160.2 thousand ($ 66.9 thousand) for Mr. Rosen, $ 239.3 thousand ($ 265.8 thousand) for Ms. Tallett, and $ 92.6 thousand ($ 32.1 thousand) for Ms. Mardis.

The total recognized compensation expenses for members of the Supervisory Board in 2016 (2015) for short-term and long-term compensation totaled $ 2.01 million ($ 1.67 million) and includes amounts of $ 294.2 thousand ($ 315.9 thousand) for Mr. Brandt, $ 319.6 thousand ($ 226.3 thousand) for Mr. Colpan, $ 388.8 thousand ($ 322.6 thousand) for Mr. Karobath, $ 329.3 thousand ($ 349.3 thousand) for Ms. Tallett, $ 249.7 thousand ($ 156.4 thousand) for Mr. Bancel, $ 242.7 thousand ($ 149.4 thousand) for Mr. Rosen, $ 156.1 thousand ($ 95.6 thousand) for Ms. Mardis, and $ 31.7 thousand for Mr. Levine. Prof. James. E. Bradner, M.D. was elected at the Company's Annual General Meeting in June 2015 and declared his resignation as of December 31, 2015. In 2015, total compensation recognized for Mr. Bradner was $ 58.2 thousand.

Total non-periodical remuneration according Dutch Civil Code included in total compensation in 2016 (2015), which includes the expense related to the short-term variable cash bonus and the expense related to the long-term compensation of equity awards granted in 2016 (2015), totaled $ 336.6 thousand ($ 411.5 thousand) and includes amounts of $ 14.4 thousand ($ 32.1 thousand) for Mr. Brandt, $ 29.4 thousand ($ 32.1 thousand) for Mr. Colpan, $ 102.3 thousand ($ 125.5 thousand) for Mr. Karobath, $ 102.3 thousand ($ 125.5 thousand) for Ms. Tallett, $ 29.4 thousand ($ 32.1 thousand) for Mr. Rosen, $ 29.4 thousand ($ 32.1 thousand) for Mr. Bancel, and $ 29.4 thousand ($ 32.1 thousand) for Ms. Mardis.

Share Ownership

Table [7] sets forth certain information as of January 31, 2017 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.

[7] Ownership Common Shares

	Shares beneficially owned[1]	
Name and country of residence	**Number[2]**	**Percent ownership**
Peer M. Schatz, Germany	2,046,821.92[3]	0.91 %
Roland Sackers, Germany	19,258.00[4]	*
Stéphane Bancel, United States	—[5]	—
Dr. Metin Colpan, Germany	3,523,427.00[6]	1.56 %
Prof. Dr. Manfred Karobath, Austria	17,986.00[7]	*
Prof. Dr. Ross L. Levine, Unites States	—	—
Prof. Dr. Elaine Mardis, United States	—	—
Lawrence A. Rosen, Germany	—[8]	—
Elizabeth Tallett, United States	4,854.00[9]	*

* Indicates that the person beneficially owns less than 0.5 % of the Common Shares issued and outstanding as of January 31, 2017.

1 The number of Common Shares outstanding as of January 31, 2017 was 225,882,186.67. 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, 2017. 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 731,158 shares issuable upon the exercise of options now exercisable having exercise prices ranging from $ 15.59 to $ 22.43 per share. Options expire in increments during the period between February 2018 and February 2023. Does not include 1,195,512 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 196,121 shares issuable upon the exercise of options now exercisable having exercise prices ranging from $ 15.59 to $ 22.43 per share. Options expire in increments during the period between February 2018 and February 2023. Does not include 143,644 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 4,000 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.

6 Does not include 9,835 shares issuable upon the exercise of options now exercisable having exercise prices ranging from $ 15.59 to $ 22.43 per share. Options expire in increments during the period between April 2017 and February 2022. Includes 2,741,579 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 6,716 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 9,835 shares issuable upon the exercise of options now exercisable having exercise prices ranging from $ 15.59 to $ 22.43 per share. Options expire in increments during the period between April 2017 and February 2022. Does not include 6,716 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.

8 Does not include 4,000 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 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 6,716 shares issuable upon the release of unvested stock awards that could become releasable within 60 days from the date of this table.

Table [8] sets forth the options of our officers and directors as of January 31, 2017:

[8] **Vested and Unvested Stock Options and Common Shares**

Name[1]	Total vested options	Expiration dates	Exercise prices
Peer M. Schatz	731,158	2/28/2018 to 2/28/2023	$15.59 to $22.43
Roland Sackers	196,121	2/28/2018 to 2/28/2023	$15.59 to $22.43
Stéphane Bancel	—	—	—
Dr. Metin Colpan	9,835	4/25/2017 to 2/28/2022	$15.59 to $22.43
Prof. Dr. Manfred Karobath	9,835	4/25/2017 to 2/28/2022	$15.59 to $22.43
Prof. Dr. Elaine Mardis	—	—	—
Lawrence A. Rosen	—	—	—
Elizabeth E. Tallett	1,563	2/28/2022	$15.59

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 requested and/or 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 2016.

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 9.1 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 17.9 million Common Shares reserved and available for issuance under the 2005 and 2014 Plans at December 31, 2016.

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, each of the options has a term of 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, 2017, there were 1.4 million options outstanding with exercise prices ranging between $ 14.26 and $ 23.16 and expiring between April 25, 2017 and October 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 10.2 million stock unit awards outstanding as of January 31, 2017. These awards will be released between February 15, 2017 and October 31, 2026.

As of January 31, 2017, options to purchase 0.9 million Common Shares and 4.5 million stock unit awards were held by the officers and directors of QIAGEN, as a group.

Further detailed information regarding stock options and awards granted under the plan can be found in Note 20 included in the Consolidated Financial Statements.

Repurchase and Issuance of Shares

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 21, 2016, 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 21, 2016 until December 21, 2017, 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 NASDAQ Global Select Market 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 Arti-

cles. Pursuant to QIAGEN's Articles of Association, the Supervisory Board has the power to issue shares and 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. On June 21, 2016, the General Meeting resolved to authorize the Supervisory Board, until December 21, 2017, to issue a number of Common Shares and financing preference shares and grant rights to subscribe for such shares, the aggregate par value of which shall be equal to the aggregate par value of all shares issued and outstanding in the capital of the Company as at December 31, 2015 as included in the Annual Accounts for Calendar Year 2015. Also, the General Meeting resolved to authorize the Supervisory Board for the same period to restrict or exclude the pre-emptive rights with respect to issuing shares or granting subscription rights, the aggregate par value of such shares or subscription rights shall be up to a maximum of 20% of the aggregate par value of all shares issued and outstanding in the capital of the Company as at December 31, 2015.

Independence

Unlike the NASDAQ listing standards which require a majority of the Supervisory Board members to be independent, the Dutch Corporate Governance Code recommends that all Supervisory Board members, with the exception of not more than one person, shall be independent within the meaning of its "best practice" provision. 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 NASDAQ rules are more stringent, such as a broader definition of disqualifying affiliations. Currently, all of our Supervisory Board are "independent" under both the NASDAQ and Dutch definitions.

Risk Management

Reference is made to the discussion in the section "Opportunities and Risks" in this report.

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 purpose both the Audit Committee and the Managing Board advise the Supervisory Board. At the Annual General Meeting in 2016, KPMG Accountants N.V. was appointed as external auditor for the Company for 2016 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.

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. The external auditor is invited to attend the meeting of the Supervisory Board at which the financial statements shall be approved and is furthermore invited to attend the General Meeting at which the financial statements are adopted and may be questioned by the General Meeting on its statement on the fairness of our annual accounts.

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 applicable to the financial year 2016 dates from December 10, 2008, and can be found at www.commissiecorporategovernance.nl. A revised Dutch Code was published on December 8, 2016 and is applicable as from January 1, 2017.

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 II.1.1 recommends that a management board member is appointed for a maximum period of four years. A member may be reappointed for a term of not more than four years at a time.

Members of the Managing 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.

2. Best practice provision II.2.4 recommends that the number of granted options shall be dependent on the achievement of challenging targets specified beforehand.

On June 25, 2014 the Annual General Meeting approved amendments to the remuneration policy of the Managing Board ("Remuneration Policy") which state that grants of stock options shall no longer be made on a regular basis and shall be reserved for use as special equity incentive rewards in certain situations. No stock options were granted to the members of the Managing Board in 2016.

3. Best practice provision II.2.5 recommends that shares granted to management board members without financial consideration shall be retained for a period of at least five years or until at least at the end of the employment, if this period is shorter. The number of shares to be granted shall be dependent on the achievement of clearly quantifiable and challenging targets specified beforehand.

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 are basically structured so that 40% of a grant vests after three years, 50% after five years and the remaining 10% after ten years. In 2015 and 2016, the members of the Managing Board elected to receive in lieu of their cash bonus the value earned in these years in performance stock units and restricted stock units respectively which vested over two years from the grant date.

4. Best practice provision II.2.8 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). If the maximum of one year's salary would be manifestly unreasonable for a management board member who is dismissed during his first term of office, such board member shall be eligible for a severance pay not exceeding twice the annual salary.

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. QIAGEN believes that these contractual arrangements are well justified due to the long tenures of the Managing Board members.

5. Best practice provision III.3.5 recommends that a person may be appointed to the supervisory board for a maximum of three 4-year terms.

Prof. Karobath has been a member of the Supervisory Board of QIAGEN N.V. since 2000. Prof. Karobath contributes profound scientific and industry experience from various management positions in the pharmaceutical industry to the board profile. He has a unique knowledge about QIAGEN which is considered to be highly valuable. As a result, QIAGEN strongly supports the reappointment Prof. Karobath beyond the 12-year term as recommended by the Dutch Code.

6. Best practice provision III.3.6 recommends that the supervisory board shall draw up a retirement schedule in order to avoid, as far as possible, a situation in which many supervisory board members retire at the same time. The retirement schedule shall be made generally available and shall 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.

7. Best practice provision III.7.1 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. Since 2007, Supervisory Board members have also 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.

8. Best practice provision IV.1.1 recommends that a general meeting of shareholders is empowered to cancel binding nominations of candidates for the management board and supervisory board, and to dismiss members of either board by a simple majority of votes of those in attendance, although the company may require a quorum of at least one third of the voting rights outstanding for such vote to have force. If such quorum is not represented, but a majority of those in attendance votes in favor of the proposal, a second meeting may be convened and its vote will be binding, even without a one-third quorum.

Our Articles of Association currently state that the General Meeting may at all times overrule a binding nomination by a resolution adopted by at least a two-thirds majority of the votes cast, if such majority represents more than half of the issued share capital. Although a deviation from provision IV.1.1 of the Dutch Code, the Supervisory Board and the Managing Board hold the view that these provisions will enhance the continuity of QIAGEN's management and policies.

NASDAQ Exemptions

Exemptions from the NASDAQ 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 initial public offering, NASDAQ granted QIAGEN 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 NASDAQ'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 NASDAQ's requirements regarding the solicitation of proxies and provision of proxy statements for meetings of the General Meeting. QIAGEN does furnish proxy statements and solicit proxies for meetings of shareholders. 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.

- QIAGEN is exempt from NASDAQ'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 NASDAQ'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.

Financial Results

Financial Results

[1] **Consolidated Balance Sheets: Assets** As of December 31

$ 1,000	Note	2016	2015
Assets			
Current assets:			
Cash and cash equivalents	(3)	439,180	290,011
Short-term investments	(7)	92,999	130,817
Accounts receivable, net of allowance for doubtful accounts of $7,614 and $7,255 in 2016 and 2015, respectively	(3)	278,244	273,853
Income taxes receivable		23,795	26,940
Inventories, net	(3)	136,552	136,586
Prepaid expenses and other current assets	(8)	66,799	70,121
Deferred income taxes	(16)	—	33,068
Total current assets		1,037,569	961,396
Long-term assets:			
Property, plant and equipment, net of accumulated depreciation of $451,160 and $409,634 in 2016 and 2015, respectively	(9)	436,655	442,944
Goodwill	(11)	1,925,518	1,875,698
Intangible assets, net of accumulated amortization of $948,072 and $827,084 in 2016 and 2015, respectively	(11)	557,159	636,421
Deferred income taxes	(16)	68,384	2,036
Other long-term assets (of which $13,067 and $7,472 in 2016 and 2015 due from related parties, respectively)	(10) (13) (22)	282,909	260,622
Total long-term assets		3,270,625	3,217,721
Total assets		**4,308,194**	**4,179,117**

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

[2] **Consolidated Balance Sheets: Liabilities and Equity** As of December 31

$ 1,000, except par value	Note	2016	2015
Liabilities and equity			
Current liabilities:			
Accounts payable		51,218	52,306
Accrued and other current liabilities (of which $ 3,926 in 2016 due to related parties)	(10) (22)	230,305	192,069
Income taxes payable		26,906	21,515
Deferred income taxes	(16)	—	2,463
Total current liabilities		308,429	268,353
Long-term liabilities:			
Long-term debt, net of current portion	(15)	1,067,096	1,049,026
Deferred income taxes	(16)	40,621	69,610
Other long-term liabilities (of which $ 5,889 in 2016 due to related parties)	(10) (13) (22)	284,952	224,058
Total long-term liabilities		1,392,669	1,342,694
Commitments and contingencies	(19)		
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 – 239,707 shares in 2016 and 2015		2,812	2,812
Additional paid-in capital		1,794,665	1,765,595
Retained earnings		1,263,464	1,209,197
Accumulated other comprehensive loss	(17)	(333,839)	(259,156)
Less treasury shares, at cost – 5,147 and 6,702 shares in 2016 and 2015, respectively	(17)	(120,006)	(152,412)
Equity attributable to the owners of QIAGEN N.V.		2,607,096	2,566,036
Noncontrolling interest		—	2,034
Total equity		2,607,096	2,568,070
Total liabilities and equity		**4,308,194**	**4,179,117**

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

[3] **Consolidated Statements of Income** Years Ended December 31

$ 1,000, except per share data	Note	2016	2015	2014
Net sales	(3) (4)	1,337,991	1,280,986	1,344,777
Cost of sales		493,338	454,328	479,570
Gross profit		844,653	826,658	865,207
Operating expenses:				
Research and development	(3)	176,135	146,830	163,666
Sales and marketing		401,352	359,598	376,141
General and administrative, integration and other	(3)	129,248	102,066	126,637
Acquisition-related intangible amortization		39,091	38,666	37,070
Total operating expenses		745,826	647,160	703,514
Income from operations		98,827	179,498	161,693
Other income (expense):				
Interest income		6,776	4,753	3,964
Interest expense		(39,022)	(37,396)	(39,330)
Other expense, net	(6)	(9,673)	(10,552)	(6,938)
Total other expense, net		(41,919)	(43,195)	(42,304)
Income before income taxes		56,908	136,303	119,389
Income taxes	(3) (16)	(23,395)	6,401	2,456
Net income		80,303	129,902	116,933
Net (loss) income attributable to noncontrolling interest		(101)	(246)	568
Net income attributable to the owners of QIAGEN N.V.		**80,404**	**130,148**	**116,365**
Basic net income per common share attributable to the owners of QIAGEN N.V.		**0.34**	**0.56**	**0.50**
Diluted net income per common share attributable to the owners of QIAGEN N.V.		**0.34**	**0.55**	**0.48**
Weighted-average common shares outstanding				
Basic	(18)	234,800	233,483	232,644
Diluted	(18)	238,993	238,647	242,806

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

[4] Consolidated Statements of Comprehensive Income (Loss)

Years Ended December 31

$ 1,000	Note	2016	2015	2014
Net income		80,303	129,902	116,933
Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods:				
(Losses) gains on cash flow hedges, before tax	(13)	(3,969)	5,337	—
Reclassification adjustments on cash flow hedges, before tax	(13)	(6,228)	(5,273)	—
Cash flow hedges, before tax		(10,197)	64	—
(Losses) gains on marketable securities, before tax		(1,421)	1,215	—
Gains (losses) on pensions, before tax		929	(1,809)	(687)
Foreign currency translation adjustments, before tax		(65,910)	(124,639)	(131,326)
Other comprehensive loss, before tax		(76,599)	(125,169)	(132,013)
Income tax relating to components of other comprehensive loss		2,562	1,140	(57)
Total other comprehensive loss, after tax		(74,037)	(124,029)	(132,070)
Comprehensive income (loss)		6,266	5,873	(15,137)
Comprehensive (income) loss attributable to noncontrolling interest		(545)	(146)	959
Comprehensive income (loss) attributable to the owners of QIAGEN N.V.		**5,721**	**5,727**	**(14,178)**

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

[5] Consolidated Statements of Changes in Equity

$ 1,000, except number of shares	Note	Common shares		Additional paid-in capital	Retained earnings
		Shares	Amount		
Balance at December 31, 2013		**239,707**	**2,812**	**1,807,002**	**1,033,343**
Acquisition of QIAGEN Marseille S.A. shares from noncontrolling interests	(5)	—	—	—	—
Net income		—	—	—	116,365
Issuance of warrants	(17)	—	—	68,900	—
Unrealized loss, net on pension	(17)	—	—	—	—
Translation adjustment, net	(17)	—	—	—	—
Purchase of treasury shares	(17)	—	—	—	—
Issuance of common shares in connection with warrant exercise	(15)	—	—	—	(12,115)
Common stock issuances under employee stock plans	(20)	—	—	—	(33,264)
Excess tax benefit of employee stock plans		—	—	1,596	—
Share-based compensation	(20)	—	—	41,313	—
Proceeds from subscription receivables		—	—	536	—
Redemption of subscription receivables	(15)	—	—	(67,943)	—
Balance at December 31, 2014		**239,707**	**2,812**	**1,851,404**	**1,104,329**
Acquisition of QIAGEN Marseille S.A. shares from noncontrolling interests		—	—	—	—
Net income		—	—	—	130,148
Unrealized loss, net on pension	(17)	—	—	—	—
Unrealized gain, net on hedging contracts	(13)	—	—	—	—
Realized gain, net on hedging contracts	(13)	—	—	—	—
Unrealized gain, net on marketable securities	(10)	—	—	—	—
Translation adjustment, net	(17)	—	—	—	—
Purchase of treasury shares	(17)	—	—	—	—
Issuance of common shares in connection with stock plan	(20)	—	—	—	(25,280)
Excess tax benefit of employee stock plans		—	—	3,328	—
Share-based compensation	(20)	—	—	23,761	—
Proceeds from subscription receivables		—	—	97	—
Redemption of subscription receivables	(15)	—	—	(112,995)	—
Balance at December 31, 2015		**239,707**	**2,812**	**1,765,595**	**1,209,197**
Acquisition of QIAGEN Marseille S.A. shares from noncontrolling interests	(5)	—	—	—	—
Acquisition of Exiqon A/S	(5)	—	—	—	—
Acquisition of Exiqon A/S shares from noncontrolling interests	(5)	—	—	—	—
Net income		—	—	—	80,404
Unrealized gain, net on pension	(17)	—	—	—	—
Unrealized loss, net on hedging contracts	(13)	—	—	—	—
Realized gain, net on hedging contracts	(13)	—	—	—	—
Unrealized loss, net on marketable securities	(10)	—	—	—	—
Translation adjustment, net	(17)	—	—	—	—
Issuance of common shares in connection with stock plan	(20)	—	—	—	(26,137)
Excess tax benefit of employee stock plans		—	—	782	—
Share-based compensation	(20)	—	—	28,288	—
Balance at December 31, 2016		**239,707**	**2,812**	**1,794,665**	**1,263,464**

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

Accumulated other comprehensive income (loss)	Treasury shares		Equity attributable to the owners of QIAGEN N.V.	Non-controlling interest	Total equity
	Shares	Amount			
(4,192)	**(5,817)**	**(116,613)**	**2,722,352**	**9,539**	**2,731,891**
—	—	—	—	(325)	(325)
—	—	—	116,365	568	116,933
—	—	—	68,900	—	68,900
(481)	—	—	(481)	—	(481)
(130,062)	—	—	(130,062)	(1,527)	(131,589)
—	(5,558)	(126,889)	(126,889)	—	(126,889)
—	1,373	30,917	18,802	—	18,802
—	2,318	45,395	12,131	—	12,131
—	—	—	1,596	—	1,596
—	—	—	41,313	—	41,313
—	—	—	536	—	536
—	—	—	(67,943)	—	(67,943)
(134,735)	**(7,684)**	**(167,190)**	**2,656,620**	**8,255**	**2,664,875**
—	—	—	—	(6,367)	(6,367)
—	—	—	130,148	(246)	129,902
(1,266)	—	—	(1,266)	—	(1,266)
4,003	—	—	4,003	—	4,003
(3,955)	—	—	(3,955)	—	(3,955)
1,215	—	—	1,215	—	1,215
(124,418)	—	—	(124,418)	392	(124,026)
—	(842)	(20,818)	(20,818)	—	(20,818)
—	1,824	35,596	10,316	—	10,316
—	—	—	3,328	—	3,328
—	—	—	23,761	—	23,761
—	—	—	97	—	97
—	—	—	(112,995)	—	(112,995)
(259,156)	**(6,702)**	**(152,412)**	**2,566,036**	**2,034**	**2,568,070**
—	—	—	—	(2,624)	(2,624)
—	—	—	—	5,519	5,519
—	—	—	—	(5,474)	(5,474)
—	—	—	80,404	(101)	80,303
650	—	—	650	—	650
(2,977)	—	—	(2,977)	—	(2,977)
(4,671)	—	—	(4,671)	—	(4,671)
(1,371)	—	—	(1,371)	—	(1,371)
(66,314)	—	—	(66,314)	646	(65,668)
—	1,555	32,406	6,269	—	6,269
—	—	—	782	—	782
—	—	—	28,288	—	28,288
(333,839)	**(5,147)**	**(120,006)**	**2,607,096**	**—**	**2,607,096**

[6] **Consolidated Statements of Cash Flows** Years Ended December 31

$ 1,000	Note	2016	2015	2014
Cash flows from operating activities:				
Net income		80,303	129,902	116,933
Adjustments to reconcile net income to net cash provided by operating activities, net of effects of businesses acquired:				
Depreciation and amortization		213,056	191,473	200,782
Non-cash acquisition, impairment and restructuring related costs	(6)	44,399	5,471	34,297
Amortization of debt discount and issuance costs		20,451	19,955	15,392
Share-based compensation expense	(20)	28,288	23,760	41,313
Excess tax benefits from share-based compensation		(782)	(3,328)	(1,596)
Deferred income taxes	(16)	(65,974)	(36,434)	(40,147)
Loss on early redemption of debt	(15)	—	7,564	4,560
(Gain) loss on marketable securities		(1,360)	6,039	3,914
Changes in fair value of contingent consideration	(14)	(6,501)	(5,225)	(1,165)
Other items, net including fair value changes in derivatives		19,435	2,609	(7,509)
Net changes in operating assets and liabilities:				
Accounts receivable	(3)	(12,238)	(24,764)	(16,561)
Inventories	(3)	(20,346)	(33,194)	(41,792)
Prepaid expenses and other current assets	(8)	6,640	52,315	(2,273)
Other long-term assets		3,549	2,730	(13,090)
Accounts payable		(1,466)	7,732	(5,495)
Accrued and other liabilities	(12)	10,618	(25,570)	(21,482)
Income taxes	(16)	15,476	(88)	16,034
Other long-term liabilities		8,054	(3,450)	5,850
Net cash provided by operating activities		341,602	317,497	287,965
Cash flows from investing activities:				
Purchases of property, plant and equipment		(74,536)	(97,778)	(86,591)
Proceeds from sale of equipment		63	103	35
Purchases of intangible assets		(19,388)	(19,703)	(10,412)
Purchases of investments		(23,448)	(6,053)	(9,426)
Purchases of short-term investments	(7)	(496,304)	(317,570)	(420,158)
Proceeds from sales of short-term investments	(7)	533,847	367,714	275,779
Cash paid for acquisitions, net of cash acquired	(5)	(90,490)	(66,930)	(160,436)
Other investing activities		(8,800)	(5,983)	3,608
Net cash used in investing activities		(179,056)	(146,200)	(407,601)

[6] **Consolidated Statements of Cash Flows (continued)** Years Ended December 31

$ 1,000	Note	2016	2015	2014
Cash flows from financing activities:				
Purchase of call option related to cash convertible notes	(15)	—	—	(105,170)
Proceeds from issuance of warrants, net of issuance costs	(17)	—	—	68,900
Net proceeds from issuance of cash convertible notes and cash paid for issuance costs	(15)	—	(86)	716,967
Repayment of long-term debt	(15)	(6,738)	(251,868)	(387,050)
Principal payments on capital leases		(1,322)	(1,079)	(4,579)
Proceeds from subscription receivables		—	97	536
Excess tax benefits from share-based compensation		782	3,328	1,596
Proceeds from issuance of common shares		6,269	10,316	12,131
Purchase of treasury shares	(17)	—	(20,818)	(126,889)
Other financing activities		(9,595)	1,497	16,401
Net cash used in financing activities		(10,604)	(258,613)	192,843
Effect of exchange rate changes on cash and cash equivalents		(2,773)	(15,340)	(10,843)
Net increase (decrease) in cash and cash equivalents		149,169	(102,656)	62,364
Cash and cash equivalents, beginning of period		290,011	392,667	330,303
Cash and cash equivalents, end of period		**439,180**	**290,011**	**392,667**
Supplemental cash flow disclosures:				
Cash paid for interest		18,227	20,799	24,052
Cash paid for income taxes		22,670	34,441	12,539
Supplemental disclosure of non-cash investing and financing activities:				
Equipment purchased through capital lease		113	231	342
Intangible assets acquired in non-monetary exchange		—	5,900	—

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

Notes to Consolidated Financial Statements December 31, 2016

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, Venlo, The Netherlands. QIAGEN N.V., a Netherlands holding company, and subsidiaries (we, our or the Company) is the leading global provider of Sample to Insight solutions to transform biological materials into valuable molecular insights. 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 molecular testing workflows. We provide these workflows to four major customer classes: Molecular Diagnostics (human healthcare), Applied Testing (forensics, veterinary testing and food safety), Pharma (pharmaceutical and biotechnology companies) and Academia (life sciences research). We market our products in more than 130 countries.

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.

On June 28, 2016, we acquired Exiqon A/S, located in Vedbaek, Denmark and on November 20, 2015, we acquired MO BIO Laboratories, Inc., located in Carlsbad, California. On December 16, 2014, we acquired Enzymatics Inc., located in Beverly, Massachusetts and on April 3, 2014, we acquired BIOBASE GmbH, located in Wolfenbüttel, Germany. Accordingly, at the acquisition dates, all of the assets acquired and liabilities assumed were recorded at their respective fair values and our consolidated results of operations include the operating results from the acquired companies from the acquisition dates.

Certain prior year amounts have been revised to reflect a change in attribution method of share-based compensation. See further discussion in the *Revision of Previously Issued Financial Statements for Change in Attribution Method* section of Note 20 – Share-Based Compensation.

Additionally, for the year ended December 31, 2015, certain balance sheet amounts have been reclassified upon adoption of ASU 2015-03 as further discussed within Note 2 – Effects of New Accounting Pronouncements.

2. Effects of New Accounting Pronouncements

Adoption of New Accounting Standards

The following new FASB Accounting Standards Updates (ASU) were effective for the year ended December 31, 2016.

ASU 2015-02, *Consolidation (Topic 810): Amendments to the Consolidation Analysis* modifies current guidance on consolidation under the variable interest model and the voting model. ASU 2015-02 became effective for us in the first quarter of 2016. The adoption did not have an impact on our consolidated financial statements.

ASU 2015-03, *Interest – Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs* requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability. ASU 2015-03 does not address presentation or subsequent measurement of debt issuance costs related to line-of-credit arrangements. The FASB issued Accounting Standards Update No. 2015-15, *Interest – Imputation of Interest (Subtopic 835-30): Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements – Amendments to SEC Paragraphs Pursuant to Staff Announcement at June 18, 2015 EITF Meeting*. This ASU adds SEC paragraphs pursuant to the SEC Staff Announcement at the June 18, 2015 Emerging Issues Task Force meeting about the presentation and subsequent measurement of debt issuance costs associated with line-of-credit arrangements. Given the absence of authoritative guidance within ASU 2015-03 for debt issuance costs related to line-of-credit arrangements, the SEC staff indicated that it would not object to an entity deferring and presenting debt issuance costs as an asset and subsequently amortizing the deferred debt issuance costs ratably over the term of the line-of-credit arrangement, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. ASU 2015-03 became effective for us beginning in the first quarter of 2016 and was applied on a retrospective basis wherein the balance sheet of each period presented is adjusted to reflect the period-specific effects of applying the new guidance. As of December 31, 2015, the effect of the change in balance sheet presentation was a reduction in prepaid expenses and other current assets of $0.2 million and a reduction in other long-term assets of $10.3 million. These amounts are then presented net against the long-term debt liability.

ASU 2015-05, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Fees Paid in a Cloud Computing Arrangement* provides guidance to help entities determine whether a cloud computing arrangement contains a software license that should be accounted for as internal-use software or as a service contract. ASU 2015-05 became

effective for our financial statements beginning in the first quarter of 2016 and did not have a material impact on our consolidated financial statements.

ASU 2015-16, *Business Combinations (Topic 805): Simplifying the Accounting for Measurement-Period Adjustments* simplifies the accounting for adjustments made to provisional amounts recognized in a business combination, the amendments eliminate the requirement to retrospectively account for those adjustments. The amendments require that an acquirer recognizes adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. The amendments require that the acquirer records, in the same period's financial statements, the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of the change to the provisional amounts, calculated as if the accounting had been completed at the acquisition date. The amendments became effective for our financial statements beginning in the first quarter of 2016 and did not have a material impact on our consolidated financial statements.

ASU 2015-17, *Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes,* changes how deferred taxes are classified on organizations' balance sheets. The ASU eliminates the requirement for organizations to present deferred tax liabilities and assets as current and noncurrent in a classified balance sheet. Instead, organizations will be required to classify all deferred tax assets and liabilities as noncurrent. We elected to adopt the amendments in the first quarter of 2016 prospectively in advance of the timeline in which we were required to adopt the amendments and accordingly the prior period has not been retrospectively adjusted. The adoption did not have a material impact on our consolidated financial statements.

New Accounting Standards Not Yet Adopted

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

First Quarter of 2017

ASU 2015-11, *Inventory (Topic 330): Simplifying the Measurement of Inventory* requires in scope inventory, including inventory measured using first-in, first out (FIFO) or average cost, to be measured at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. ASU 2015-11 became effective for us beginning January 1, 2017 and did not have a material impact on our consolidated financial statements.

ASU 2016-07, *Investments – Equity Method and Joint Ventures (Topic 323): Simplifying the Transition to the Equity Method of Accounting* eliminates the requirement to retroactively adopt the equity method of accounting when an investment qualifies for use of the equity method as a result of an increase in the level of ownership or degree of influence. The new guidance became effective for us beginning on January 1, 2017 with no impact on our consolidated financial statements.

ASU 2016-09, *Compensation – Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting* is intended to simplify several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The new guidance became effective for us beginning January 1, 2017. The impact of the adoption of ASU 2016-09 is limited to the recording of any windfall or shortfall benefit directly to the tax provision and the reclassification of certain items in our statement of cash flows, which we intend to adopt prospectively. We will continue estimating stock-based compensation award forfeitures in determining the amount of compensation cost to be recognized each period. We expect an increase to our cash flows from operating activities and a decrease to cash flows from financing activities. Following adoption, we expect volatility in our effective tax rate as any windfall or shortfall tax benefits related to our share-based compensation will be recorded directly into our results of operations.

First Quarter of 2018

ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* affects any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of nonfinancial assets unless those contracts are within the scope of other standards (e.g., insurance contracts or lease contracts). In August 2015, the FASB issued Accounting Standards Update No. 2015-14 (ASU 2015-14), *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date* which defers the effective date of ASU 2014-09 to interim and annual reporting periods beginning after December 15, 2017. The FASB has continued to issue accounting standards updates to clarify and provide implementation guidance related to *Revenue from Contracts with Customers,* including ASU 2016-08 *Revenue from Contract with Customers: Principal versus Agent Considerations,* ASU 2016-10 *Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing,* and ASU 2016-12 *Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients*. An entity should apply the amendments either retrospectively to each prior reporting period presented and the entity may elect certain practical expedients (the full retrospective method of adoption); or, retrospectively with the cumulative effect of initially applying this ASU recognized at the date of initial application (the modified retrospective method of adoption). We have not experienced significant issues in our implementation process and based on the analysis to date, we currently do not expect the adoption to have a material impact on our existing revenue accounting policies or on the recognition of revenue from product sales. However, we continue to evaluate the impact the guidance may have in connection with collaboration and license agreements and other revenue sources. We anticipate adopting this standard on its effective date, January 1, 2018. We have not yet determined the method of adoption, but assuming the impact is not material, we expect to adopt the new standard using the modified retrospective method with an adjustment to beginning retained earnings for the cumulative effect of the change.

ASU 2016-01, *Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* will impact certain aspects of recognition, measurement, presentation and disclosure of financial instruments. The new guidance makes targeted improvements to existing U.S. GAAP by:

- requiring equity investments (except those accounted for under the equity method of accounting, or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income;
- requiring public business entities to use the exit price notion when measuring the fair value of financial instruments for disclosure purposes;
- requiring separate presentation of financial assets and financial liabilities by measurement category and form of financial asset (i.e., securities or loans and receivables) on the balance sheet or the accompanying notes to the financial statements;
- eliminating the requirement to disclose the fair value of financial instruments measured at amortized cost for organizations that are not public business entities;
- eliminating the requirement for public business entities to disclose the method(s) and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the balance sheet; and
- requiring a reporting organization to present separately in other comprehensive income the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk (also referred to as "own credit") when the organization has elected to measure the liability at fair value in accordance with the fair value option for financial instruments.

The amendments will become effective for our financial statements beginning in the first quarter of 2018. The implementation of the amendments is expected to increase the volatility of net income; however the extent of any volatility will be dependent upon the significance of the equity investments at the time of adoption. As of December 31, 2016, we had a net unrealized $0.2 million loss, net of tax, from equity investments recorded in equity. Following the adoption of this standard, such gains or losses will be recognized in net income.

ASU No. 2016-15, *Statement of Cash Flows (Topic 320): Classification of Certain Cash Receipts and Cash Payments* (a consensus of the FASB Emerging Issues Task Force), addresses eight classification issues related to the statement of cash flows:

- debt prepayment or debt extinguishment costs;
- settlement of zero-coupon bonds;
- contingent consideration payments made after a business combination;
- proceeds from the settlement of insurance claims;

- proceeds from the settlement of corporate-owned life insurance policies, including bank-owned life insurance policies;
- distributions received from equity method investees;
- beneficial interests in securitization transactions; and
- separately identifiable cash flows and application of the predominance principle.

ASU 2016-15 will become effective for us for annual and interim periods in fiscal years beginning after December 15, 2017. Early adoption is permitted, including adoption in an interim period. We will be required to apply this ASU using a retrospective transition method to each period presented other than for issues where application would be impracticable in which case we will be permitted to apply the amendments for those issues prospectively as of the earliest date practicable. The new guidance will become effective for us on January 1, 2018. We are currently evaluating the potential impact of ASU 2016-15 on our consolidated financial statements.

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 amendment requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The amendments in this update should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. This update is effective for annual periods beginning after December 15, 2017, and interim periods within those fiscal years with early adoption permitted, including adoption in an interim period. We are currently evaluating the impact the adoption of this new standard will have on our financial position and results of operations.

ASU 2016-18, *Statement of Cash Flows (Topic 320): Restricted Cash,* requires entities to show the changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. As a result, entities will no longer present transfers between cash and cash equivalents and restricted cash and restricted cash equivalents in the statement of cash flows. The amendments in this update should be applied using a retrospective transition method to each period presented. This update is effective for annual periods beginning after December 15, 2017, and interim periods within those fiscal years with early adoption permitted, including adoption in an interim period. We are currently evaluating the impact the adoption of this new standard will have on our financial position and results of operations.

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. The amendments in this update should be applied prospectively on or after the effective date. This update is effective for annual periods beginning after December 15, 2017, and interim periods within those periods. Early adoption is permitted for acquisition or deconsolidation transactions occurring before the issuance date or effective date and only when

the transactions have not been reported in issued or made available for issuance financial statements. We are currently evaluating the impact the adoption of this new standard will have on our financial position and results of operations.

First Quarter of 2019

ASU 2016-02, *Leases (Topic 842)* aims to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. ASU 2016-02 will become effective for us beginning in the first quarter of 2019 and requires modified retrospective application for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. We do not plan to early adopt this standard and we anticipate that the adoption of this standard will require changes to our systems and processes. We expect this standard to increase total assets and total liabilities, however, we are currently evaluating the potential size of the impact that ASU 2016-02 may have on our consolidated financial statements.

First Quarter of 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 in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The new guidance will become effective for us beginning on January 1, 2020. We are currently evaluating the potential impact ASU 2016-13 may have on our consolidated financial statements.

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 us 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 are currently evaluating the impact the adoption of this new standard will have on our financial position and results of operations.

3. Summary of Significant Accounting Policies and Critical Accounting Estimates

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 under the cost method. 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 and therefore do not expect to record any losses as a result of counterparty default. 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 our subsidiaries' functional currencies 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 as a component of other expense, 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 as a component of other expense, net. The net (loss) gain on foreign currency transactions in 2016 was less than $0.1 million and in 2015 and 2014 was $(0.5) million, and $1.9 million, respectively, and is included in other expense, net.

The exchange rates of key currencies were as follows:

[7] **Exchange Rates for Key Currencies**

	Closing rate at December 31,		Annual average rate		
($ equivalent for one)	**2016**	**2015**	**2016**	**2015**	**2014**
Euro (EUR)	1.0541	1.0887	1.1068	1.1100	1.3287
Pound Sterling (GBP)	1.2312	1.4833	1.3560	1.5286	1.6474
Swiss Franc (CHF)	0.9816	1.0048	1.0153	1.0406	1.0938
Australian Dollar (AUD)	0.7222	0.7308	0.7439	0.7522	0.9025
Canadian Dollar (CAD)	0.7430	0.7202	0.7552	0.7836	0.9059
Japanese Yen (JPY)	0.0085	0.0083	0.0092	0.0083	0.0095
Chinese Yuan (CNY)	0.1440	0.1542	0.1506	0.1592	0.1623

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

Our revenues are reported net of sales and value added taxes, discounts and sales allowances, 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. We recognize revenue when four basic criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the fee is fixed or determinable; and (4) collectability is reasonably assured.

Consumable and Related Products: In the last three years, revenue from consumable product sales has accounted for approximately 79%–80% of our net sales and is generally recognized upon transfer of title consistent with the shipping terms. We maintain a small amount, on average less than $2.0 million in total, of consignment inventory at certain customer locations. Revenues for the consumable products which are consigned in this manner are recognized upon consumption. We generally allow returns of consumable products if the product is returned in a timely manner and in good condition. Allowances for returns are provided for based upon the historical pattern of returns and management's evaluation of specific factors that impact the risk of returns.

Revenues from related products include software-as-a-service (SaaS), license fees, intellectual property and patent sales, royalties and milestone payments and over the last three years has accounted for approximately 7%–8% of our net sales. Revenue from SaaS arrangements has increased following our 2013 acquisition of Ingenuity, and is recognized ratably 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. License fees from research collaborations include payments for technology transfer and access rights. Non-refundable, up-front payments received in connection with collaborative research and development agreements are generally deferred and recognized on a straight-line basis over the contract period during which there is any continuing obligation. Revenue from intellectual property and patent sales is recognized when earned, either at the time of sale, or over the contract period when licensed. Payments for milestones, generally based on the achievement of substantive and at-risk performance criteria, are recognized in full at such time as the specified milestone has been achieved according to the terms of the agreement. Royalties from licensees are based on reported sales of licensed products and revenues are calculated based on contract terms when reported sales are reliably measurable, fees are fixed or determinable and collectability is reasonably assured.

Instrumentation: 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 12 % – 13 % of net sales. Revenue from instrumentation equipment is recognized when title passes to the customer, upon either shipment or written customer acceptance after satisfying any installation and training requirements.

We offer our customers access to our instrumentation via reagent rental agreements which place instrumentation with customers without requiring them to purchase the equipment. Instead, we recover the cost of providing the instrumentation in the amount charged for consumable products. The instruments placed with customers under a reagent rental agreement are depreciated and charged to cost of sales on a straight-line basis over the estimated life of the instrument, typically 3 to 5 years. The costs to maintain these instruments in the field are charged to cost of sales as incurred. Revenue from these reagent rental agreements is allocated to the elements within the arrangement (the lease, the sale of consumables and/or services) in accordance with ASC 605-25, *Revenue Recognition – Multiple-Element Arrangements* and recognized for each unit of accounting as appropriate.

We have contracts with multiple elements which include instrumentation equipment, either leased under a reagent rental agreement or sold directly, together with other elements such as installation, training, extended warranty services or product maintenance contracts or consumable products. These contracts are accounted for under ASC 605-25, *Revenue Recognition – Multiple-Element Arrangements.* Multiple-element arrangements are assessed to determine whether there is more than one unit of accounting. In order for a deliverable to qualify as a separate unit of accounting, both of the following criteria must be met:

- The delivered items have value to the client on a stand-alone basis;
- If the arrangement includes a general right of return relative to the delivered item, delivery or performance of the undelivered item or items is considered probable and substantially in the control of the Company.

Arrangement consideration is allocated at the inception of the arrangement to all deliverables on the basis of their relative selling price. When applying the relative selling price method, the selling price for each deliverable is determined using (a) vendor-specific objective evidence (VSOE) of selling price, if it exists; or otherwise (b) third-party evidence of selling price. If neither VSOE nor third-party evidence of selling price exists for a deliverable, then the best estimated selling price for the deliverable is used. The arrangement consideration is allocated to the separate units of accounting based on each unit's relative fair value. If these criteria are not met, deliverables included in an arrangement are accounted for as a single unit of accounting and revenues and costs are deferred until the period or periods in which the final deliverable is provided.

We have evaluated the deliverables in our multiple-element arrangements and concluded that they are separate units of accounting because the delivered item or items have value to the customer on a standalone basis and for an arrangement that includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) is considered probable and substantially in our control. Revenues from installation and training are recognized as services are completed, based on VSOE, which is determined by reference to the price customers pay when the services are sold separately. Revenues from extended warranty services or product maintenance contracts are recognized on a straight-line basis over the term of the contract, typically one year. VSOE of fair value of extended warranty services or product maintenance is determined based on the price charged for the maintenance and support when sold separately. Revenues from the instrumentation equipment and consumable products are recognized when the products are delivered and there are no further performance obligations. VSOE of fair value of instrumentation equipment and consumable products is determined based on the price charged for the instrument and consumables when sold separately. Certain of our reagent rental arrangements include termination provisions for breach of contract. However, these termination provisions would not impact recognized revenues. Our other arrangements do not include any provisions for cancellation or refunds.

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. The changes in the carrying amount of warranty obligations are as follows:

[8] **Change in Carrying Amount of Warranty Obligations**

$ 1,000	**Total**
Balance at December 31, 2014	3,279
Provision charged to cost of sales	2,202
Usage	(2,569)
Adjustments to previously provided warranties, net	(91)
Currency translation	(184)
Balance at December 31, 2015	2,637
Provision charged to cost of sales	3,562
Usage	(2,936)
Adjustments to previously provided warranties, net	(424)
Currency translation	(60)
Balance at December 31, 2016	**2,779**

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, 2016, 2015 and 2014, shipping and handling costs totaled $26.5 million, $26.2 million and $26.8 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, 2016, 2015 and 2014 were $8.4 million, $7.2 million and $7.0 million, respectively.

General and Administrative, Integration and Other

General and administrative expenses primarily represent the costs required to support administrative infrastructure. In addition, we incur indirect acquisition and business integration costs in connection with business combinations. These costs represent incremental costs that we believe would not have been incurred absent the business combinations. Major components of these costs include payroll and related costs for employees remaining with the Company on a transitional basis; public relations, advertising and media costs for re-branding of the combined organization; and, consulting and related fees incurred to integrate or restructure the acquired operations.

Restructuring

Restructuring costs include personnel costs (principally termination benefits), facility closure and 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. Facility closure, some termination benefits 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 further tax consequences resulting from differences in the financial reporting and tax basis of assets and liabilities. Deferred tax assets and/or liabilities are determined by multiplying the differences between the financial reporting and 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. As discussed in Note 20 *Share-Based Compensation,* in 2016 we made a change in accounting principle to move from a straight-line attribution method for expense recognition to an accelerated attribution method.

- *Stock Options:* We utilize the Black-Scholes-Merton valuation model for estimating the fair value of our stock options granted. Option valuation models, including Black-Scholes-Merton, require the input of highly subjective assumptions, and changes in the assumptions used can materially affect the grant date fair value of an award. These assumptions include the risk-free rate of interest, expected dividend yield, expected volatility, expected life of the award and forfeiture rate. We have not granted stock options since 2013.

- *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.

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

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.

[9] **Cash and Cash Equivalents** — As of December 31

$ 1,000	2016	2015
Cash at bank and on hand	137,615	217,644
Short-term bank deposits	301,565	72,367
Cash and cash equivalents	**439,180**	**290,011**

Short-Term Investments

Short-term investments are classified as "available for sale" and stated at fair value in the accompanying balance sheet. Interest income is accrued when earned and changes in fair market values are reflected as unrealized gains and losses, calculated on the specific identification method, as a component of accumulated other comprehensive income (loss) in equity. 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 capital 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 Cash Convertible Notes are based on an estimation using available over-the-counter market information. The fair values of the Private Placement Senior Notes further described in Note 15 were estimated using the changes in the U.S. Treasury rates.

Accounts Receivable

Our accounts receivable are unsecured and we are at risk to the extent such amounts become uncollectible. We continually monitor accounts receivable balances, and provide for an allowance for doubtful accounts at the time collection becomes questionable based on payment history or age of the receivable. Amounts determined to be uncollectible are written off against the reserve. For the years ended December 31, 2016, 2015 and 2014, write-offs of accounts receivable totaled $1.6 million, $2.0 million and $2.3 million, respectively, while provisions for doubtful accounts which were charged to expense totaled $2.1 million, $2.1 million and $1.4 million, respectively. For all years presented, no single customer represented more than ten percent of accounts receivable or consolidated net sales.

Inventories

Inventories are stated at the lower of cost, determined on a first-in, first-out basis, or market and include material, capitalized labor and overhead costs. Inventories consisted of the following as of December 31, 2016 and 2015:

[10] **Inventories** — As of December 31

$ 1,000	2016	2015
Raw materials	29,402	27,051
Work in process	28,123	21,066
Finished goods	79,027	88,469
Total inventories, net	**136,552**	**136,586**

Property, Plant and Equipment

Property, plant and equipment, including equipment acquired under capital lease obligations, 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 for internal use, including 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 the product 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.

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 one to twenty 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. In 2016, we recorded intangible asset impairments of $21.4 million related to the restructuring as discussed in Note 6. For the years ended December 31, 2015 and 2014, we recorded intangible asset impairments of $0.2 million and $8.7 million, respectively. Intangible asset impairments recorded during the year ended December 31, 2014 are further discussed in Note 6 *Restructuring.*

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.

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 1 of each year. Following the annual impairment tests for the years ended December 31, 2016, 2015 and 2014, goodwill has not been impaired. As discussed in Note 6 *Restructuring,* in 2016 we recorded a $2.6 million disposal of goodwill.

Investments

We have investments in non-marketable securities issued by privately held companies. These investments are included in other long-term assets in the accompanying consolidated balance sheets and are accounted for using the equity or cost method of accounting.

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 cost or equity method 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. In 2016, we recorded an impairment to an equity method investment of $8.3 million, in other expense, net. For the year ended December 31, 2015 we recorded total impairments to a cost method investment of $2.2 million, in other expense, net. For the year ended December 31, 2014, we recorded total impairments to cost method investments of $6.0 million, of which $4.8 million was recorded in other expense, net and $1.2 million was recorded in research and development expense.

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. During the year ended December 31, 2016, in connection with the restructuring discussed in Note 6, we recorded asset impairment charges of $10.9 million, of which $9.2 million is recorded in research and development expense, $1.5 million is recorded in general and administrative, integration and other expense, $0.1 million is recorded in cost of sales and $0.1 million is recorded in sales and marketing expense. In 2015, we recorded asset impairment charges of $3.1 million in general and administrative, integration and other expenses in the accompanying consolidated statements of income related to the abandonment of certain software projects following the acquisition of MO BIO. During the year ended December 31, 2014 in connection with our internal and acquisition related restructuring, we recorded asset impairment charges of $19.6 million, of which $15.5 million is recorded in cost of sales, $2.4 million is recorded in sales and marketing expense, and $1.7 million in general and administrative, integration and other expenses in the accompanying consolidated statements of income.

4. Segment Information

Considering the acquisitions made during 2016, we determined that we still operate as one business segment in accordance with FASB ASC Topic 280, Segment Reporting. As a result of 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 as one business segment. Summarized product category and geographic information is shown in the tables 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.

[11] **Net Sales by Product Categories**

$ 1,000	2016	2015	2014
Net sales			
Consumables and related revenues	1,166,131	1,114,580	1,172,728
Instrumentation	171,860	166,406	172,049
Total	**1,337,991**	**1,280,986**	**1,344,777**

Geographical Information

Net sales are attributed to countries based on the location of the customer. QIAGEN operates manufacturing facilities in Germany, China, the United Kingdom, and the United States that supply products to customers as well as QIAGEN subsidiaries in other countries. The sales from these manufacturing operations to other countries are included in the Net Sales of the countries in which the manufacturing locations are based. 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 $ 12.4 million, $ 11.3 million and $ 13.7 million for the years ended 2016, 2015 and 2014, respectively, and these amounts are included in the line item Europe, Middle East and Africa as shown in the table below.

[12] **Net Sales by Geographic Regions**

$ 1,000	2016	2015	2014
Net sales			
Americas:			
United States	555,676	525,532	543,877
Other Americas	71,797	79,578	75,974
Total Americas	627,473	605,110	619,851
Europe, Middle East and Africa	428,055	409,955	451,092
Asia Pacific and Rest of World	282,463	265,921	273,834
Total	**1,337,991**	**1,280,986**	**1,344,777**

Long-lived assets include property, plant and equipment. The Netherlands, which is included in the balances for Europe, reported long-lived assets of $ 1.4 million and $ 0.3 million as of December 31, 2016 and 2015, respectively.

[13] **Long-lived Assets by Geographic Regions**

$ 1,000	2016	2015
Long-lived assets		
Americas:		
United States	145,813	148,748
Other Americas	4,544	2,691
Total Americas	150,357	151,439
Germany	237,190	243,120
Other Europe	37,057	35,573
Asia Pacific and Rest of World	12,051	12,812
Total	**436,655**	**442,944**

5. Acquisitions

Acquisitions have been accounted for as business combinations, and the acquired companies' results have been included in the accompanying consolidated statements of income from their respective dates of acquisition. Our acquisitions have historically been made at prices above the fair value of the acquired net assets, resulting in goodwill, due to expectations of synergies of combining the businesses. These synergies include use of our existing infrastructure, such as sales force, shared service centers, distribution channels and customer relations, to expand sales of the acquired businesses' 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.

2016 Acquisitions

During the second quarter of 2016, we acquired a majority shareholding in Exiqon A/S (Exiqon), a publicly traded Danish company headquartered in Vedbaek, Denmark, which is a leading provider of RNA analysis solutions with a proprietary Locked Nucleic Acid (LNA) technology. The acquisition expands our leadership position in Sample to Insight solutions for RNA analysis. On June 28, 2016, we paid DKK 627.4 million ($95.2 million) for approximately 94.52% of the outstanding Exiqon common shares. On the acquisition date, the fair value of the remaining shares was $5.5 million. The fair value of this noncontrolling share was based on reference to quoted market values of Exiqon stock. Since the acquisition date, we have acquired the remaining Exiqon shares for $5.5 million in cash, which is included in other financing activities in the accompanying consolidated statements of cash flows, and as of December 31, 2016 we held 100% of Exiqon's shares. For the year ended December 31, 2016, acquisition-related costs of $6.3 million are included in general and administrative, integration and other in the accompanying consolidated statements of income.

The preliminary purchase price allocation as of December 31, 2016 did not differ from the preliminary purchase price allocation as of June 30, 2016 other than a $9.4 million increase in developed technology, a $9.2 million increase in deferred tax asset on tax loss carry forwards, a $2.8 million decrease in customer relationships, a $1.2 million increase of long-term deferred tax liability, a $0.4 million increase in prepaid expenses and other current assets and an additional $0.3 million increase of other opening balance sheet liabilities. The corresponding impact for these adjustments was a decrease to goodwill of $14.7 million.

The allocation of the purchase price is preliminary and is 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 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 deferred taxes related to the intangible assets acquired as well as the deferred tax asset on tax loss carry forwards.

[14] **Exiqon Preliminary Purchase Price Allocation**

$ 1,000	Exiqon acquisition
Purchase price:	
Cash consideration	95,163
Fair value of remaining shares	5,519
	100,682
Preliminary Allocation:	
Cash and cash equivalents	4,824
Accounts receivable	3,581
Inventory	1,553
Prepaid expenses and other current assets	1,853
Accounts payable	(1,289)
Accruals and other current liabilities	(11,587)
Debt assumed	(6,068)
Other long-term liabilities	(197)
Deferred tax asset on tax loss carry forwards	10,016
Fixed and other long-term assets	2,870
Developed technology	18,500
Customer relationships	3,800
Tradenames	1,400
Goodwill	76,807
Deferred tax liability on fair value of identifiable intangible assets acquired	(5,381)
	100,682

The weighted average amortization period for the intangible assets is 11.1 years. The goodwill acquired is not deductible for tax purposes.

Revenue and earnings in the reporting periods since the acquisition date have not been significant. No pro forma financial information has been provided herein as the acquisition of Exiqon did not have a material impact to net sales, net income or earnings per share on a pro forma basis.

2015 Acquisitions

During 2015, we completed three acquisitions, including the acquisition of MO BIO Laboratories, Inc., a privately-held U.S. company, that is considered a leader in sample technologies for metagenomics and microbiome analysis. Purchase consideration for these acquisitions totaled $ 66.9 million in cash, net of cash acquired, and as of December 31, 2016, the purchase price allocations are final. Each of these acquisitions 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.

2014 Acquisition

In December 2014, we acquired the enzyme solutions business of Enzymatics Inc. (Enzymatics), a U.S. company whose products are used in an estimated 80 % of all next-generation sequencing (NGS) workflows. The comprehensive Enzymatics portfolio complements QIAGEN's leading offering of universal NGS products, advancing our strategy to drive the adoption of NGS in clinical healthcare. The cash consideration totaled $ 114.2 million. The acquisition of Enzymatics did not have a material business impact to net sales, net income or earnings per share, and therefore no pro forma financial information has been provided herein.

The final purchase price allocation of Enzymatics did not differ from the preliminary estimates other than an increase of $ 2.1 million in fair value of contingent consideration, a $ 0.4 million increase of long-term deferred tax liability and an additional $ 0.1 million increase of other opening balance sheet adjustments. The corresponding impact for these adjustments was an increase to goodwill of $ 2.4 million. These changes to arrive at the final purchase price allocation were not material to the consolidated financial statements.

The final purchase price allocation for Enzymatics was as follows:

[15] **Enzymatics Final Purchase Price Allocation**

$ 1,000	**Enzymatics acquisition**
Purchase price:	
Cash consideration	114,224
Fair value of contingent consideration	13,600
	127,824
Final allocation:	
Cash and cash equivalents	1,178
Accounts receivable	2,813
Prepaid expenses and other current assets	1,330
Fixed and other long-term assets	1,414
Accounts payable	(3,090)
Accruals and other current liabilities	(1,940)
Developed technology	28,600
Tradenames	6,600
Customer relationships	22,300
Goodwill	90,177
Deferred tax liability on fair value of identifiable intangible assets acquired	(21,558)
	127,824

The weighted-average amortization period for the intangible assets is 11.1 years. The goodwill acquired is not deductible for tax purposes.

Certain acquisitions may include contingent consideration which is recorded as part of the purchase consideration based on the acquisition date fair value. Under the purchase agreement, potential contingent cash payments through 2017 total $17.0 million, of which the fair value of $13.6 million was recorded as purchase price using a probability-weighted analysis of the future milestones using discount rates between 0.70% and 2.20%. See Note 14, "Fair Value Measurements," for details of the changes in the fair value of the contingent consideration liabilities.

Other 2014 Acquisitions

During 2014, we completed other acquisitions which individually were not significant to the overall consolidated financial statements. The cash paid for these acquisitions, net of cash acquired, totaled $47.4 million. Each of these acquisitions individually 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.

Other Acquisition

During 2011, we acquired a majority shareholding in QIAGEN Marseille S.A., formerly Ipsogen S.A. (Marseille), a publicly listed company founded and based in Marseille, France. During 2014, we acquired additional Marseille shares for a total of $0.3 million and held 90.27% of the Marseille shares as of December 31, 2014. In 2015, QIAGEN Marseille, a fully consolidated entity, sold all its assets and liabilities, with the exception of its intellectual property portfolio. During 2015, we acquired additional Marseille shares through a tender offer for a total of $8.0 million and held 97.22% of the QIAGEN Marseille shares as of December 31, 2015. Per the terms of the tender offer, $2.5 million was aside as of December 31, 2015 in restricted cash for the remaining shares which were acquired in the first quarter of 2016 and as of December 31, 2016 we held 100% of the QIAGEN Marseille shares.

6. Restructuring

2016 Restructuring

During the fourth quarter of 2016, we initiated series of targeted actions to support faster sales momentum and improve efficiency and accountability. The objective with these actions is to ensure that we grow sustainably and consistently in the coming years. Measures include simplifying our geographic presence with site reductions, focusing resources to shared service centers, and streamlining selected organizational structures. We expect to complete the program in 2017 at a total cost of approximately $90.0 million, of which $79.1 million was incurred in 2016 and approximately $10.0 million is expected to be incurred in 2017 primarily related to personnel and facility costs.

The table below shows how the costs related to the restructuring program were recorded.

[16] **Costs of 2016 Restructuring Program** Years Ended December 31

$ 1,000	Personnel-related	Facility-related	Contract and other costs	Asset Impairments & Disposals	Total
Cost of sales	1,222	205	43	10,490	11,960
Research and development	4,176	1,798	14	20,370	26,358
Sales and marketing	12,753	4,335	6,797	1,046	24,931
General and administrative, integration and other	1,069	827	1,461	1,547	4,904
Other expense, net	—	—	—	10,946	10,946
Total	**19,220**	**7,165**	**8,315**	**44,399**	**79,099**

Personnel and related expense includes a $ 2.0 million reduction in costs as a result of forfeitures of share-based compensation in connection with terminations. We incurred consulting costs of $ 7.5 million, included in Contract and Other Costs, related to third party consulting costs associated with the development of the restructuring plan. Asset Impairments and Disposals include $ 21.4 million for intangible asset impairments, $ 10.9 million for fixed asset abandonments, and $ 1.1 million primarily in connection with the write-off of prepaid contract costs. The total $ 10.9 million of expense included in other expense, net in the accompanying consolidated statements of income is composed of $ 8.3 million associated with an impairment of an equity method investment and a disposal of goodwill of $ 2.6 million.

The following table summarizes the cash components of the restructuring activity.

[17] **Cash Components of 2016 Restructuring Program**

$ 1,000	Personnel-related	Facility-related	Contract and other costs	Total
Costs incurred in 2016	21,252	7,165	8,315	36,732
Payments	(2,742)	(601)	(2,391)	(5,734)
Facility deferred rent reclassified to restructuring liability	—	1,326	—	1,326
Foreign currency translation adjustment	(30)	(8)	19	(19)
Liability at December 31, 2016	**18,480**	**7,882**	**5,943**	**32,305**

At December 31, 2016, $27.6 million of the liability is included in accrued and other current liabilities and $4.7 million is included in other long-term liabilities in the accompanying consolidated balance sheet.

2014 Restructuring

During the fourth quarter of 2014, we recorded pretax charges of $37.1 million in restructuring charges in connection with the acquisition of Enzymatics discussed in Note 5 and from the implementation of headcount reductions and facility consolidations to further streamline operations and various measures as part of a commitment to continuous improvement and related to QIAGEN's strategic focus on its five growth drivers. Of these charges, $26.4 million is recorded in cost of sales, $2.4 million is recorded in sales and marketing, and $8.3 million is recorded in general, administrative, integration and other. The pretax charge consists of $6.4 million for workforce reductions, $19.6 million for fixed asset abandonment charges, $8.7 million for intangible asset abandonment charges in line with strategic initiatives to keep our activities technologically and competitively current. Additionally, we incurred contract termination and consulting costs of $2.4 million. No additional costs were incurred in 2015 or 2016 related to this program.

The following table summarizes the components of the 2014 restructuring costs. At December 31, 2016, no further amounts were payable under this restructuring program. At December 31, 2015, a restructuring accrual of $4.1 million was included in accrued and other current liabilities.

[18] **Components of 2014 Restructuring Costs**

$ 1,000	Personnel-related	Facility-related	Contract and other costs	Total
Balance at December 31, 2014	**6,341**	**7,627**	**652**	**14,620**
Payments	(4,789)	(4,199)	(418)	(9,406)
Release of excess accrual	(453)	—	(20)	(473)
Foreign currency translation adjustment	(630)	—	—	(630)
Balance at December 31, 2015	**469**	**3,428**	**214**	**4,111**
Payments	(143)	(3,428)	(214)	(3,785)
Release of excess accrual	(325)	—	—	(325)
Foreign currency translation adjustment	(1)	—	—	(1)
Balance at December 31, 2016	**—**	**—**	**—**	**—**

2011 Restructuring

Late in 2011, we began a project to enhance productivity by streamlining the organization and reallocating resources to strategic initiatives. This project eliminated organizational layers and overlapping structures. The last group of initiatives included actions to focus research and development activities on higher-growth areas in all customer classes, concentrate operations at fewer sites, and realign sales and regional marketing teams in the U.S. and Europe to better address customer needs in a more streamlined manner across the continuum from basic research to translational medicine and clinical diagnostics.

The following table summarizes the cash components of the restructuring costs.

[19] **Cash Components of Restructuring Costs**

$ 1,000	Personnel-related	Facility-related	Contract and other costs	Total
Balance at December 31, 2013	**9,782**	**313**	**511**	**10,606**
Payments	(8,071)	(313)	(511)	(8,895)
Release of excess accrual	(775)	—	—	(775)
Foreign currency translation adjustment	(210)	—	—	(210)
Balance at December 31, 2014	**726**	**—**	**—**	**726**
Payments	(381)	—	—	(381)
Release of excess accrual	(340)	—	—	(340)
Foreign currency translation adjustment	(5)	—	—	(5)
Balance at December 31, 2015	**—**	**—**	**—**	**—**

7. Short-Term Investments

At December 31, 2016 and 2015, we had $89.3 million and $127.1 million, respectively, of loan receivables and commercial paper due from financial institutions. These loan receivables and commercial paper 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. At December 31, 2016, these loans consist of $63.5 million and €24.5 million ($25.8 million as of December 31, 2016) which mature at various dates through December 2018. All instruments that have an original tenor of more than 12 months include redemption rights on at least a quarterly basis. Interest income is determined using the effective interest rate method. These loans are classified as current assets in the accompanying consolidated balance sheets since we may redeem the loans at our discretion.

At December 31, 2016 and 2015, we also had €3.5 million ($3.7 million) and €3.4 million ($3.7 million), respectively in term deposits with final maturities in August 2017. The deposits can be withdrawn at the end of each quarter without penalty and are therefore classified as current assets in the accompanying consolidated balance sheets.

For the year ended December 31, 2016 and 2015, proceeds from sales of short term investments totaled $533.8 million and $367.7 million, respectively. During the year ended December 31, 2016, realized gains totaled $1.4 million. During the years ended December 31, 2015 and 2014, realized losses totaled $6.0 million and $3.9 million, respectively.

8. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets are summarized as follows as of December 31, 2016 and 2015:

[20] **Prepaid Expenses and Other Current Assets** — As of December 31

$ 1,000	2016	2015
Prepaid expenses	35,529	38,986
Value added tax	14,985	15,219
Other receivables	10,899	9,658
Fair value of derivative instruments	5,386	3,758
Amounts held in escrow in connection with acquisitions	—	2,500
Total prepaid expenses and other current assets	**66,799**	**70,121**

9. Property, Plant and Equipment

Property, plant and equipment, including equipment acquired under capital lease obligations, are summarized as follows as of December 31, 2016 and 2015:

[21] **Property, Plant and Equipment** As of December 31

$ 1,000	Estimated useful life (in years)	2016	2015
Land	—	16,327	15,452
Buildings and improvements	5–40	301,092	302,068
Machinery and equipment	3–10	257,349	253,556
Computer software	3–7	176,227	125,396
Furniture and office equipment	3–10	89,560	92,281
Construction in progress	—	47,260	63,825
		887,815	**852,578**
Less: Accumulated depreciation and amortization		(451,160)	(409,634)
Property, plant and equipment, net		**436,655**	**442,944**

Amortization of assets acquired under capital lease obligations is included within accumulated depreciation and amortization above for the years ended December 31, 2016 and 2015, respectively. For the years ended December 31, 2016, 2015 and 2014 depreciation and amortization expense totaled $ 75.1 million, $ 59.5 million and $ 67.9 million, respectively. For the years ended December 31, 2016, 2015 and 2014 amortization related to computer software to be sold, leased or marketed totaled $ 9.3 million, $ 5.1 million and $ 6.2 million, respectively.

In 2016, we recorded asset impairment charges of $ 10.9 million related to the restructuring charge discussed in Note 6. Impairments included $ 7.5 million of computer software to be sold, leased or marketed, $ 1.7 million in machinery and equipment, $ 1.5 million in internal-use software, $ 0.1 million in furniture and office equipment and $ 0.1 million in buildings and improvements. In 2015, we recorded asset impairment charges of $ 3.1 million, of which $ 1.0 million related to computer software to be sold, leased or marketed related to the abandonment of certain projects following the acquisition of MO BIO.

Repairs and maintenance expense was $ 13.0 million, $ 15.4 million and $ 15.9 million in 2016, 2015 and 2014, respectively. For the year ended December 31, 2016 and 2015, construction in progress primarily includes amounts related to ongoing software development projects. For the years ended December 31, 2016, 2015 and 2014, interest capitalized in connection with construction projects was not significant.

10. Investments

We have made strategic investments in certain companies that are accounted for using the equity or cost method of accounting. The method of accounting for an investment depends on the level of influence. We monitor changes in circumstances that may require a reassessment of the level of influence. We periodically review the carrying value of these investments for impairment, considering factors such as the most recent stock transactions and book values from the recent financial statements. The fair value of cost and equity-method investments is estimated when there are identified events or changes in circumstances that may have an impact on the fair value of the investment. Additionally, we have investments in marketable equity securities that have readily determinable fair values that are classified as available-for-sale. These investments are reported at fair value, with unrealized gains and losses recorded in accumulated other comprehensive income (loss) in equity.

Equity Method Investments

A summary of these equity method investments, which are included in other long-term assets in the consolidated balance sheets, is as follows:

[22] **Equity Method Investments and Share of Income**

$ 1,000		Equity investments as of December 31			Share of income (loss) for the years ended December 31	
Company	**Ownership percentage**	**2016**	**2015**	**2016**	**2015**	**2014**
PreAnalytiX GmbH	50.00	3,519	10,627	3,067	1,878	3,577
Biotype Innovation GmbH	24.90	3,339	3,775	(335)	(595)	—
Pyrobett	19.00	2,444	2,111	333	(600)	(539)
Hombrechtikon Systems Engineering AG	19.00	1,524	—	—	—	—
QIAGEN (Suzhou) Institute of Translation Research Co., Ltd.	30.00	—	203	(244)	(107)	(409)
QIAGEN Finance	100.00	—	—	—	85	147
QBM Cell Science	19.50	—	—	—	—	(2)
Dx Assays Pte Ltd	33.30	—	—	—	—	710
		10,826	**16,716**	**2,821**	**661**	**3,484**

In connection with the restructuring activities discussed in Note 6, we transferred the research and development activities of our instrumentation business to a new company, Hombrechtikon Systems Engineering AG (HSE), in which we acquired a 19.0% interest for a total obligation of $9.8 million which is payable over three years. As of December 31, 2016, $3.9 million was included in accrued and other current liabilities and $5.9 million was included in other long-term liabilities in the accompanying consolidated balance sheet. HSE is a variable interest entity 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 of HSE. Therefore, HSE is not consolidated. In 2016, we recorded an impairment of the investment in HSE of $8.3 million in other expense, net and accordingly, as of December 31, 2016, the investment has a carrying value of $1.5 million, which is included in other long-term assets in the consolidated balance sheets, representing our maximum exposure to loss.

We had a 100% interest in QIAGEN Finance (Luxembourg) S.A. (QIAGEN Finance) which was established for the purpose of issuing convertible debt in 2004. The proceeds of the 2004 Notes were loaned to subsidiaries within the consolidated QIAGEN N.V. group. QIAGEN N.V. had guaranteed the 2004 Notes, and had agreements with QIAGEN Finance to issue common shares to the investors in the event of conversion of the 2004 Notes. QIAGEN Finance was a variable interest entity. We did not hold any variable interests in QIAGEN Finance, and we were not the primary beneficiary, therefore QIAGEN Finance was not consolidated. Accordingly, the 2004 convertible debt was not included in the consolidated statements of QIAGEN N.V., though QIAGEN N.V. did report the full obligation of the debt through its liabilities to QIAGEN Finance. QIAGEN N.V. accounted for its investment in QIAGEN Finance as an equity investment until the first quarter of 2015 and accordingly recorded 100% of the profit or loss of QIAGEN Finance in the gain or loss from equity method investees. During the first quarter of 2015, we repaid the $250.9 million loan to QIAGEN Finance and repurchased the warrant agreement with QIAGEN Finance.

Cost Method Investments

At December 31, 2016 and 2015, we had a total of cost-method investments in non-publicly traded companies with carrying amounts of $38.2 million and $17.2 million, respectively, which are included in other long-term assets in the consolidated balance sheets. The fair-value of these cost-method investments are not estimated unless there are identified events or changes in circumstances that may have a significant adverse effect on the fair value of the investment. During the years ended December 31, 2016, and 2015, we made cost-method investments totaling $20.5 million, and $4.4 million, respectively. In August 2016, we converted a $0.6 million short-term loan into additional ownership interest of a cost-method investment. In 2015, we recorded total impairments to a cost method investment of $2.2 million in other expense, net. In 2014, we recorded total impairments to a cost method investment of $6.0 million of which $4.8 million was recorded in other expense, net and $1.2 million was recorded in research and development expense.

Marketable Equity Securities

During 2016, we made an investment in HTG Molecular Diagnostics, Inc., a publicly traded company, that is classified as a long-term marketable security. At December 31, 2016, we held 833,333 shares with a fair market value of $1.9 million and a cost of $2.0 million. Our former cost-method investment in Curetis AG was reclassified as a long-term marketable security during 2015 upon the completed IPO of its Dutch holding company, Curetis N.V. At December 31,

2016, we held 320,712 shares with a cost of $2.3 million. As of December 31, 2016 and 2015, the fair market value of these shares was $2.2 million and $3.5 million, respectively. Long-term marketable securities are included in other long-term assets in the accompanying consolidated balance sheets.

11. Goodwill and Intangible Assets

The following sets forth the intangible assets by major asset class as of December 31, 2016 and 2015:

[23] **Intangible Assets by Major Asset Class** As of December 31

		2016		2015	
$ 1,000	**Weighted average life (in years)**	**Gross carrying amount**	**Accumulated amortization**	**Gross carrying amount**	**Accumulated amortization**
Amortized intangible assets:					
Patent and license rights	10.61	373,609	(233,406)	338,175	(205,880)
Developed technology	10.64	708,825	(469,312)	693,294	(409,374)
Customer base, trademarks, and non-compete agreements	10.71	422,797	(245,354)	432,036	(211,830)
	10.65	**1,505,231**	**(948,072)**	**1,463,505**	**(827,084)**
Unamortized intangible assets:					
Goodwill		1,925,518		1,875,698	

The changes in intangible assets for the years ended December 31, 2016 and 2015 are as follows:

[24] **Changes in Intangible Assets**

$ 1,000	Intangibles	Goodwill
Balance at December 31, 2014	**726,914**	**1,887,963**
Additions	45,575	—
Purchase adjustments	(8,200)	1,656
Acquisitions	31,412	37,084
Amortization	(131,953)	—
Impairment losses	(205)	—
Foreign currency translation adjustments	(27,122)	(51,005)
Balance at December 31, 2015	**636,421**	**1,875,698**
Additions	70,937	76,807
Purchase adjustments	(321)	316
Acquisitions	23,700	—
Amortization	(137,949)	—
Disposals	(29)	(2,650)
Impairment losses	(21,423)	—
Foreign currency translation adjustments	(14,177)	(24,653)
Balance at December 31, 2016	**557,159**	**1,925,518**

Amortization expense on intangible assets totaled approximately $ 137.9 million, $ 132.0 million and $ 132.9 million, respectively, for the years ended December 31, 2016, 2015 and 2014.

In 2016, we recorded an intangible asset abandonment charge of $ 21.4 million related to the discontinuation of existing technologies in connection with the restructuring discussed more fully in Note 6. Of this abandonment charge, $ 10.3 million is included in cost of sales and $ 11.1 million is included in research and development in the accompanying consolidated statements of income.

Cash paid for purchases of intangible assets during the years ended December 31, 2016 and 2015 totaled $ 19.4 million and $ 19.7 million of which $ 3.9 million and $ 6.4 million, respectively, were not yet in service and are included in other long-term assets in the consolidated balance sheet. Intangible asset additions of $ 70.9 million includes $ 15.5 million of cash paid during the year ended December 31, 2016, together with $ 7.1 million of additions which were previously recorded as prepayments and $ 48.4 million of additions which were accrued as of December 31, 2016. Of the accrued additions, $ 46.3 million relate to licenses for which fixed payments are expected to occur through the end of the license term in 2024.

The changes in the carrying amount of goodwill during the years ended December 31, 2016 and 2015 resulted primarily from changes in foreign currency translation together with acquired goodwill from the 2016 acquisition of Exiqon and adjustments made in connection with 2015 purchase price allocation for the acquisition of MO BIO Laboratories Inc. discussed in Note 5. Additionally, $2.6 million of goodwill was disposed of in connection with the transfer of the research and development activities of our instrumentation business as part of the restructuring program discussed in Note 6. Accumulated goodwill impairment totaled $1.6 million as of December 31, 2016 and 2015.

Amortization of intangibles for the next five years is expected to be approximately:

[25] **Expected Future Ammortization of Intangible Assets** — Years Ended December 31

$ 1,000	Amortization
2017	128,561
2018	106,175
2019	84,389
2020	59,125
2021	50,845

12. Accrued and Other Current Liabilities

Accrued and other current liabilities at December 31, 2016 and 2015 consist of the following:

[26] **Accrued and Other Liabilities** — As of December 31

$ 1,000	2016	2015
Accrued expenses	74,245	51,784
Payroll and related accruals	54,772	52,036
Deferred revenue	44,629	49,812
Restructuring	27,590	4,144
Accrued royalties	7,801	13,786
Cash collateral	6,984	7,826
Fair value of derivative instruments	6,089	525
Accrued interest on long-term debt	4,239	4,239
Accrued contingent consideration and milestone payments	2,957	6,995
Current portion of capital lease obligations	999	922
Total accrued and other current liabilities	**230,305**	**192,069**

13. 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 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. In 2015, we 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 will receive or provide cash collateral, as the case may be, for the net position with each of these counterparties. As of December 31, 2016, cash collateral positions consisted of $7.0 million recorded in accrued and other current liabilities and $1.2 million recorded in prepaid and other current assets in the accompanying consolidated balance sheet. As of December 31, 2015, $7.8 million was recorded in accrued and other current liabilities in the accompanying consolidated balance sheet.

As of December 31, 2016 and 2015, 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 income (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. In 2016 and in 2015, we did not record any hedge ineffectiveness related to any cash-flow hedges in earnings. Based on their valuation as of December 31, 2016, we expect approximately $7.6 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 sheet account of the underlying item.

As of December 31, 2016 and 2015, 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 earnings effect 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. In 2016 and 2015, we concluded there was 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 sheet account of the underlying item.

Interest Rate Derivatives

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, 2016, the € 180.0 million notional swap amount had a fair value of $ 1.4 million and accrued and unpaid interest of $ 1.7 million which are recorded in other long-term assets and prepaid and other current assets, respectively, in the accompanying consolidated balance sheet. As of December 31, 2015, this swap had a fair value of $ 5.3 million and accrued and unpaid interest of $ 1.6 million which are both recorded in other long-term assets in the accompanying consolidated balance sheet.

During 2014, we entered into interest rate swaps, which effectively fixed the fair value of $ 200.0 million 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, 2016, the $ 200.0 million notional swap amount had a fair value of $ 3.1 million and accrued and unpaid interest of $ 0.6 million which are both recorded in other long-term assets and prepaid and other current assets, respectively, in the accompanying consolidated balance sheet. As of December 31, 2015, this swap had a fair value of $ 5.0 million and accrued and unpaid interest of $ 0.8 million which are both recorded in other long-term assets in the accompanying balance sheet.

Call Options

We entered into Call Options during 2014 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 15. We used $ 105.2 million of the proceeds from the issuance of the Cash Convertible Notes to pay the premium for the Call Options, and simultaneously received $ 68.9 million (net of issuance costs) from the sale of the Warrants, for a net cash outlay of $ 36.3 million for the Call Spread Overlay. The Call Options are intended to address the equity price risk inherent in the cash conversion feature 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 a premium of $ 105.2 million 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 a derivative asset that requires mark-to-market accounting treatment due to the cash settlement features until the Call Options settle or expire. The Call Options are measured and reported at fair value on a recur-

ring 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 14. The fair value of the Call Options at December 31, 2016 and 2015 was approximately $185.8 million and $169.0 million, respectively which is recorded in other long-term assets in the accompanying consolidated balance sheet.

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 in other expense, net. For the years ended December 31, 2016 and 2015, the changes in the fair value of the Call Options resulted in gains of $16.7 million and $21.3 million, respectively. 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 those 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 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 in other expense, net until the cash conversion option settles or expires. For further discussion of the Cash Convertible Notes, refer to Note 15. The initial fair value liability of the embedded cash conversion option was $105.2 million, which simultaneously reduced the carrying value of the Cash Convertible Notes (effectively an original issuance discount). 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 14. The fair value of the embedded cash conversion option at December 31, 2016 and 2015 was approximately $187.5 million and $171.0 million which is recorded in other long-term liabilities in the accompanying balance sheet. For the years ended December 31, 2016 and 2015 the change in the fair value of the embedded cash conversion option resulted in losses of $16.6 million and $21.5 million, respectively.

Foreign Currency Derivatives

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

Undesignated Derivative Instruments

We are party to various foreign exchange forward, option and swap arrangements which had, at December 31, 2016, an aggregate notional value of $347.6 million and fair values of $3.2 million and $6.1 million included in prepaid and other current assets and accrued and other current liabilities, respectively, which expire at various dates through December 2017. We were party to various foreign exchange forward and swap arrangements which had, at

December 31, 2015, an aggregate notional value of $264.2 million and fair values of $1.4 million and $0.5 million included in prepaid and other current assets and accrued and other current liabilities, respectively, which expired at various dates through March 2016. The transactions have been entered into to offset the effects from short-term balance sheet exposure to foreign currency exchange risk. Changes in the fair value of these arrangements have been recognized in other expense, net.

Fair Values of Derivative Instruments

The following table summarizes the fair value amounts of derivative instruments reported in the consolidated balance sheets as of December 31, 2016 and 2015:

[27] **Fair Value of Derivative Instruments** — As of December 31

	Derivatives in asset positions fair value		Derivatives in liability positions fair value	
$ 1,000	**2016**	**2015**	**2016**	**2015**
Derivative instruments designated as hedges				
Interest rate contracts[1]	6,655	12,687	—	—
Total derivative instruments designated as hedges	**6,655**	**12,687**	**—**	**—**
Undesignated derivative instruments				
Call spread overlay	185,750	169,037	(187,546)	(170,951)
Foreign exchange contracts	3,154	1,393	(6,089)	(525)
Total derivative instruments	**188,904**	**170,430**	**(193,635)**	**(171,476)**

1 The fair value amounts for the interest rate contracts include accrued interest.

Gains and Losses on Derivative Instruments

The following tables summarize the classification and gains and losses on derivative instruments for the years ended December 31, 2016, 2015 and 2014:

[28] **Gains and Losses on Derivative Instruments** — Years Ended December 31

$ 1,000 2016	Gain (loss) recognized in AOCI	Location of (gain) loss in income statement	(Gain) loss reclassified from AOCI into income	Gain (loss) recognized in income
Cash flow hedges				
Interest rate contracts	(3,969)	Other expense, net	(6,228)	n/a
Fair value hedges				
Interest rate contracts	—	Other expense, net	—	(1,930)
Undesignated derivative instruments				
Call spread overlay	n/a	Other expense, net	n/a	118
Foreign exchange contracts	n/a	Other expense, net	n/a	(6,072)
				(5,954)
2015				
Cash flow hedges				
Interest rate contracts	5,337	Other expense, net	(5,237)	n/a
Fair value hedges				
Interest rate contracts	—	Other expense, net	—	1,691
Undesignated derivative instruments				
Call spread overlay	n/a	Other expense, net	n/a	(171)
Foreign exchange contracts	n/a	Other expense, net	n/a	21,434
				21,263
2014				
Fair value hedges				
Interest rate contracts	—	Other expense, net	—	3,294
Undesignated derivative instruments				
Call spread overlay	n/a	Other expense, net	n/a	(1,743)
Foreign exchange contracts	n/a	Other expense, net	n/a	61,713
				59,970

The amounts noted in the table above for accumulated other comprehensive income (AOCI) do not include any adjustment for the impact of deferred income taxes.

14. Fair Value Measurements

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

Level 1: Observable inputs, such as quoted prices in active markets;

Level 2: Inputs, other than the quoted price in active markets, that are observable either directly or indirectly; and

Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Our assets and liabilities measured at fair value on a recurring basis consist of short-term investments, which are classified in Level 1 and Level 2 of the fair value hierarchy, marketable securities discussed in Note 10, which are classified in Level 1, derivative contracts used to hedge currency and interest rate risk and derivative financial instruments entered into in connection with the Cash Convertible Notes discussed in Note 15, which are classified in Level 2 of the fair value hierarchy, and contingent consideration accruals which are classified in Level 3 of the fair value hierarchy, and are shown in the tables below.

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 15, "Lines of Credit and Debt", and Note 13, "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 as of December 31, 2016 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 contingent consideration liabilities. We value contingent consideration liabilities using unobservable inputs, applying the income approach, such as the discounted cash flow technique, or the probability-weighted scenario method. Contingent consideration arrangements obligate us to pay the sellers of an acquired entity if specified future events occur or conditions are met such as the achievement of technological or revenue milestones. We use various key assumptions, such as the probability of achievement of the milestones (0% to 100%) and the discount rate (between 2.2% and 7.7%), 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 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:

[29] **Fair Value Hierarchy for Financial Assets and Liabilities** As of December 31

	2016				2015			
	Level 1	**Level 2**	**Level 3**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Total**
$ 1,000								
Assets:								
Short-term investments	3,699	89,300	—	92,999	3,674	127,143	—	130,817
Marketable securities	4,064	—	—	4,064	3,485	—	—	3,485
Call option	—	185,750	—	185,750	—	169,037	—	169,037
Foreign exchange contracts	—	3,154	—	3,154	—	1,393	—	1,393
Interest rate contracts	—	6,655	—	6,655	—	12,687	—	12,687
	7,763	**284,859**	**—**	**292,622**	**7,159**	**310,260**	**—**	**317,419**
Liabilities:								
Foreign exchange contracts	—	(6,089)	—	(6,089)	—	(525)	—	(525)
Cash conversion option	—	(187,546)	—	(187,546)	—	(170,951)	—	(170,951)
Contingent consideration	—	—	(8,754)	(8,754)	—	—	(17,678)	(17,678)
	—	**(193,635)**	**(8,754)**	**(202,389)**	**—**	**(171,476)**	**(17,678)**	**(189,154)**

For liabilities with Level 3 inputs, the following table summarizes the activity for the years ended December 31, 2016 and 2015:

[30] **Activity for Liabilities with Level 3 Inputs**

$ 1,000	Contingent consideration
Balance at December 31, 2014	(17,477)
Additions from acquisitions	(5,476)
Gain included in earnings	5,225
Foreign currency translation adjustments	50
Balance at December 31, 2015	(17,678)
Additions	(692)
Payments	3,120
Gain included in earnings	6,501
Foreign currency translation adjustments	(5)
Balance at December 31, 2016	**(8,754)**

For the year ended December 31, 2016, of the total $8.8 million accrued for contingent consideration, $5.8 million is included in other long-term liabilities and $3.0 million is included in accrued and other current liabilities. During 2016, a $6.5 million gain for the reduction in the fair value of contingent consideration related to unmet milestones was recognized in general and administrative, integration and other in the accompanying consolidated statements of income. During 2015, gains for the reduction in the fair value of contingent consideration totaling $5.2 million were recognized in general and administrative, integration and other.

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 15 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, 2016 and 2015 for nonfinancial assets or liabilities required to be measured at fair value on a nonrecurring basis other than the impairment of cost-method investments as discussed in Note 10.

15. Lines of Credit and Debt

Our credit facilities available and undrawn at December 31, 2016 total €436.6 million (approximately $460.2 million). This includes a €400.0 million syndicated multi-currency revolving credit facility expiring December 2021 of which no amounts were utilized at December 31, 2016 or at December 31, 2015, and four other lines of credit amounting to €36.6 million with no expiration date, none of which were utilized as of December 31, 2016 or as of December 31, 2015. The €400.0 million facility can be utilized in Euro, British pounds sterling, Swiss franc or U.S. dollar and bears interest of 0.4% to 1.2% above three months EURIBOR, or LIBOR in relation to any loan not in euro, and is offered with interest periods of one, two, three or six months. The commitment fee is calculated based on 35% of the applicable margin. In 2016 and 2015, $1.0 million and $0.9 million of commitment fees were paid, respectively. 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, 2016. The credit facilities are for general corporate purposes.

At December 31, 2016 and December 31, 2015, total long-term debt, net of debt issuance costs of $8.1 million and $10.6 million, respectively, consists of the following:

[31] **Total Long-Term Debt** — As of December 31

$1,000	2016	2015
3.19% Series A Senior Notes due October 16, 2019	73,408	73,790
3.75% Series B Senior Notes due October 16, 2022	301,601	302,943
3.90% Series C Senior Notes due October 16, 2024	26,910	26,898
0.375% Senior Unsecured Cash Convertible Notes due 2019	402,806	391,111
0.875% Senior Unsecured Cash Convertible Notes due 2021	262,371	254,284
Total long-term debt	**1,067,096**	**1,049,026**

The notes are all unsecured obligations that rank pari passu. Interest expense on long-term debt was $35.8 million, $34.5 million and $36.4 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Future maturities (stated at the carrying values) of long-term debt as of December 31, 2016 are as follows:

[32] **Future Principal Maturities of Long-Term Debt**

$ 1,000	
2017	—
2018	—
2019	476,214
2020	—
2021	262,371
Thereafter	328,511
	1,067,096

Cash Convertible Notes due 2019 and 2021

On March 19, 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 and 2021 Notes, collectively as the "Cash Convertible Notes". The aggregate net proceeds of the Cash Convertible Notes were $680.7 million, after payment of the net cost of the Call Spread Overlay described below and transaction costs. Additionally, we used $372.5 million of the net proceeds to repay the 2006 Notes and related subscription right described below.

Interest on the Cash Convertible 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 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.

The Cash Convertible Notes are convertible into cash in whole, but not in part, at the option of noteholders in the following circumstances: (a) from April 29, 2014 through September 18, 2018 for the 2019 Notes, and September 18, 2020 for the 2021 Notes (Contingent Conversion Period), under any of the Contingent Conversion Conditions and (b) at any time following the 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 their Cash Convertible Notes into cash at their option at any time during the Contingent Conversion Period only under the following circumstances (Contingent Conversion Conditions):

- during any calendar quarter commencing after the calendar quarter ending on March 31, 2014 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) 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 ten consecutive trading day period in which the quoted price for the 2019 Notes or the 2021 Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day;
- if 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.

As adjusted by the synthetic share repurchase discussed in Note 17, the conversion rate is 7,063.1647 shares of our common stock per $200,000 principal amount of Cash Convertible Notes (reflecting an adjusted conversion price of approximately $28.32 per share of common stock). 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 2019 Notes or 2021 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 until the cash conversion option transaction settles or expires. The initial fair value liability of the embedded cash conversion option was $105.2 million, 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 13.

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 over the expected life of the debt, which is five and seven years for the 2019 Notes and 2021 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 and 2021 Notes is 2.937% and 3.809%, 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. As of December 31, 2016, we expect the 2019 Notes to be outstanding until their 2019 maturity date and the 2021 Notes to be outstanding until their 2021 maturity date, for remaining amortization periods of approximately five and seven years, respectively. Based on an estimation using available over-the-counter market information on the Cash Convertible Notes, the fair value of the 2019 Notes was $485.9 million and $495.5 million and the fair value of the 2021 Notes was $349.6 million and $356.1 million, at December 31, 2016 and 2015, respectively.

In connection with the issuance of the Cash Convertible Notes, we incurred approximately $13.1 million in transaction costs. Such costs have been allocated to the Cash Convertible Notes and deferred as a long-term asset and are being amortized over the terms of the Cash Convertible Notes.

Interest expense related to the Cash Convertible Notes was comprised of the following:

[33] **Interest Expense Related to the Cash Convertible Notes** — Years Ended December 31

$ 1,000	2016	2015
Coupon interest	4,238	4,238
Amortization of original issuance discount	17,503	16,935
Amortization of debt issuance costs	2,279	2,220
Total interest expense related to the Cash Convertible Notes	**24,020**	**23,393**

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. We used $105.2 million of the proceeds from the issuance of the 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. The Call Options are derivative financial instruments and are discussed further in Note 13. The Warrants are equity instruments and are further discussed in Note 17.

Aside from the initial payment of a premium of $105.2 million 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.

The Warrants cover an aggregate of 25.8 million shares of our common stock (subject to anti-dilution adjustments under certain circumstances) and have an initial exercise price of $32.085 per share, subject to customary adjustments. The Warrants expire as follows: Warrants to purchase 15.2 million shares expire over a period of 50 trading days beginning on December 27, 2018 and Warrants to purchase 10.6 million shares expire over a period of 50 trading days beginning on December 29, 2020. The Warrants are European-style (exercisable only upon expiration). The Warrants 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, divided by the settlement price, plus cash in lieu of any fractional shares. We will not receive any proceeds if the Warrants are exercised.

Private Placement

In October 2012, we completed a private placement through the issuance of new senior unsecured notes at a total amount of $399.9 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 in 2019 (3.19%); (2) $300.0 million 10-year term due in 2022 (3.75%); and (3) $26.9 million 12-year term due in 2024 (3.90%). We paid $2.1 million in debt issue costs which will be amortized through interest expense over the lifetime of the notes. Approximately €170.0 million (approximately $220 million) of proceeds from the notes were used to repay amounts outstanding under our short-term revolving credit facility in 2012. The remainder of the proceeds provides additional resources to support our longer-term business expansion. 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, 2016. 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, 2016 and December 31, 2015 was approximately $397.1 million and $399.3 million, respectively. During 2014, we entered into interest rate swaps, which effectively fixed the fair value of the $200.0 million of this debt and qualify for hedge accounting as fair value hedges as described in Note 13.

2006 Notes

In May 2006, we completed the offering of $300 million of 3.25% Senior Convertible Notes due in 2026 (2006 Notes) through an unconsolidated subsidiary, QIAGEN Euro Finance (Euro Finance). The net proceeds of the 2006 Notes were loaned by Euro Finance to consolidated subsidiaries. These long-term notes payable to Euro Finance had an effective interest rate of 3.7% and were due in May 2026. Interest was payable semi-annually in May and November. The 2006 Notes were issued at 100% of principal value, and were convertible into 15.0 million common shares at the option of the holders upon the occurrence of certain events, at a price of $20.00 per share, subject to adjustment. QIAGEN N.V. had an agreement with QIAGEN Euro Finance to issue shares to the investors in the event of conversion. This subscription right, along with the related receivable, was recorded at fair value in the equity of QIAGEN N.V. as paid-in capital. In March 2014, we redeemed the $300.0 million loan payable to Euro Finance and approximately 98% of the subscription right with QIAGEN Euro Finance for $372.5 million, and recognized a loss on the redemption of $4.6 million in other expense, net. The repayment amount was allocated to the loan and warrants on a relative fair value basis with $113.0 million recorded against additional paid in capital for the redemption of the warrant subscription receivable. Contemporaneously, QIAGEN Euro Finance redeemed the 2006 Notes. During 2014, we issued 0.2 million common shares in exchange for $3.9 million upon the exercise of the remaining subscription rights and subsequently Euro Finance was liquidated.

2004 Notes

In August 2004, we completed the sale of $150 million of 1.5% Senior Convertible Notes due in 2024 (2004 Notes), through our unconsolidated subsidiary QIAGEN Finance. The net proceeds of the 2004 Notes were loaned by QIAGEN Finance to consolidated subsidiaries with an effective interest rate of 1.8% were due in February 2024. Interest was payable semi-annually in February and August. The 2004 Notes were issued at 100% of principal value, and were convertible into 11.5 million common shares at the option of the holders upon the occurrence of certain events at a price of $12.6449 per share, subject to adjustment. QIAGEN N.V. had an agreement with QIAGEN Finance to issue shares to the investors in the event of conversion. The subscription right, along with the related receivable, was recorded at fair value in the equity of QIAGEN N.V. as paid-in capital. In 2014, 1.2 million common shares were issued in connection with the conversions. During 2015, we repaid the loan to QIAGEN Finance and repurchased the warrant agreement with QIAGEN Finance for $250.9 million and recognized a loss of $7.6 million in other expense, net. The repayment amount was allocated to the loan and

warrants on a relative fair value basis with $ 113.0 million recorded against additional paid in capital for the redemption of the warrant subscription receivable. Subsequent to these transactions QIAGEN Finance was liquidated.

16. Income Taxes

Income before income taxes for the years ended December 31, 2016, 2015 and 2014 consisted of:

[34] **Income Before Provision for Income Taxes** Years Ended December 31

$ 1,000	2016	2015	2014
Pretax income in The Netherlands	20,695	1,310	(4,931)
Pretax income from foreign operations	36,213	134,993	124,320
	56,908	**136,303**	**119,389**

Income taxes for the years ended December 31, 2016, 2015 and 2014 are as follows:

[35] **Provisions for Income Taxes** Years Ended December 31

$ 1,000	2016	2015	2014
Current – The Netherlands	6,043	973	936
Foreign	36,536	41,862	41,667
	42,579	42,835	42,603
Deferred – The Netherlands	188	250	317
Foreign	(66,162)	(36,684)	(40,464)
	(65,974)	(36,434)	(40,147)
Total income tax expense (benefit)	**(23,395)**	**6,401**	**2,456**

In the table above and throughout Note 16, amounts related to 2015 and 2014 are revised to reflect the book and tax impact for the change in accounting principle for share-based compensation. See further discussion in the *Revision of Previously Issued Financial Statements for Change in Attribution Method* section of Note 20, *Share-Based Compensation*.

The Netherlands statutory income tax rate was 25% for the years ended December 31, 2016, 2015 and 2014. 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 reported income taxes and effective tax rate for the years ended December 31, 2016, 2015 and 2014 are as follows:

[36] **Principal Items Comprising Differences Between Computed and Effective Taxes** — Years Ended December 31

	2016		2015		2014	
$ 1,000	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
Income taxes at The Netherlands statutory rate	14,227	25.0	34,076	25.0	29,847	25.0
Taxation of foreign operations, net[1]	(43,265)	(76.0)	(36,407)	(26.7)	(29,958)	(25.1)
Tax impact from non-deductible items	5,938	10.4	14,219	10.4	10,263	8.6
Tax impact from tax exempt income[2]	(3,331)	(5.9)	(5,810)	(4.3)	(2,589)	(2.2)
Tax contingencies, net	1,761	3.1	1,163	0.9	4,409	3.7
Taxes due to changes in tax rates	399	0.7	(836)	(0.6)	330	0.3
Government incentives and other deductions[3]	(2,543)	(4.5)	(2,754)	(2.0)	(8,617)	(7.2)
Prior year taxes	1,411	2.5	(1,201)	(0.9)	(1,950)	(1.6)
Valuation allowance	1,521	2.7	3,450	2.5	—	—
Other items, net	487	0.9	501	0.4	721	0.6
Total income tax expense (benefit)	**(23,395)**	**(41.1)**	**6,401**	**4.7**	**2,456**	**2.1**

1 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. The most significant tax benefits from these foreign operations and financing activities are attributable to subsidiaries in Germany, Singapore, Switzerland, Ireland and Luxembourg. These foreign tax benefits are due to a combination of favorable tax laws, regulations, rulings, and exemptions in these jurisdictions. Additionally, in 2016 and 2014, in certain foreign jurisdictions (primarily Germany and the United States), we recorded acquisition related and impairment charges which reduced pretax income in these higher tax jurisdictions.

2 The impact from tax-exempt income primarily reflects The Netherlands' benefit of the 2006 and 2004 Notes discussed in Note 15 "Lines of Credit and Debt." These notes were redeemed in 2014 and 2015, respectively, and accordingly the related income tax benefit of $2.6 million in 2014, did not and will not impact our effective tax rate in 2015 and beyond. In 2016, tax-exempt income includes nontaxable income in the U.S. from the release of contingent consideration accruals and nontaxable dividend income in Switzerland.

3 Government incentives include favorable tax regulations primarily in France in 2014 and the United States relating to research and development expense as well as the United States Internal Revenue Code Section 199 domestic production activities deduction.

We conduct business globally and, as a result, file numerous consolidated and separate income tax returns in The Netherlands, Germany, Switzerland 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 open since 2004 for income tax examinations by tax authorities. Our subsidiaries, with few exceptions, are no longer subject to income tax examinations by tax authorities for years before 2012. The U.S. consolidated group is subject to federal and most state income tax examinations by tax authorities beginning the year ending December 31, 2013 through the current period.

Starting in February 2014, the U.S. tax authorities (Internal Revenue Service) have been auditing our U.S. federal tax returns for 2011 and 2012. The audit was closed in 2016 without any proposed tax adjustments. As a result, we released $6.6 million of unrecognized tax benefit due to closure of the tax audit. Additionally, in February 2016 German tax authorities began the audit of the German tax returns for the 2010-2013 tax years. This audit is currently in process and we expect the audit to close during 2017.

In 2014, we established a reserve related to cash convertible notes as discussed in Note 15 for $3.0 million. In 2015, we received a confirmation from the relevant tax authorities, which resulted in a release of $3.0 million reserve in 2015.

Changes in the amount of unrecognized tax benefits are as follows:

[37] **Changes in Gross Amount of Unrecognized Tax Benefits**

$1,000	Unrecognized tax benefits
Balance at December 31, 2014	**16,002**
Additions based on tax positions related to the current year	2,018
Additions for tax positions of prior years	2,640
Settlements with taxing authorities	(2,988)
Reductions due to lapse of statute of limitations	(747)
Decrease from currency translation	(190)
Balance at December 31, 2015	**16,735**
Additions based on tax positions related to the current year	4,218
Additions for tax positions of prior years	5,162
Decrease for tax position of prior years	(6,796)
Settlements with taxing authorities	—
Reductions due to lapse of statute of limitations	(288)
Decrease from currency translation	(737)
Balance at December 31, 2016	**18,294**

At December 31, 2016 and 2015, our net unrecognized tax benefits totaled approximately $18.3 million and $16.7 million, respectively, of which $18.3 million and $16.7 million in benefits, if recognized, would favorably affect our effective tax rate in any future period. It is reasonably possible that approximately $5.8 million of the unrecognized tax benefits may be released 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 statement of income as part of the income tax expense.

Our policy is to recognize interest accrued related to unrecognized tax benefits in interest expense and penalties within income tax expense. For the years ended December 31, 2016, 2015 and 2014, we have net interest (income) expense and penalties of $0.1 million, $0.3 million and $(0.3) million, respectively. At December 31, 2016 and 2015, we have accrued interest of $1.5 million and $1.4 million, respectively, which are not included in the table above.

We have recorded net deferred tax asset of $27.8 million and deferred tax liabilities of $37.0 million at December 31, 2016 and 2015, respectively. The components of the net deferred tax asset and liability at December 31, 2016 and 2015 are as follows:

[38] **Components of Net Deferred Tax Asset and Liability** — As of December 31

	2016		2015	
$ 1,000	**Deferred tax assets**	**Deferred tax liability**	**Deferred tax assets**	**Deferred tax liability**
Net operating loss carryforwards	46,627	—	25,771	—
Accrued and other current Liabilities	24,663	—	22,648	—
Inventories	2,919	(1,567)	2,394	(1,060)
Allowance for bad debts	1,060	(451)	1,121	(465)
Currency revaluation	3,474	(73)	934	(132)
Property, plant and equipment	2,096	(19,733)	1,859	(27,854)
Capital lease	830	—	1,793	—
Tax credit carryforwards	915	—	1,110	—
Unremitted profits and earnings	—	(923)	—	(902)
Intangible assets	586	(137,682)	272	(150,594)
Share-based compensation	20,282	—	20,841	—
Deferred interest deductions	76,793	—	54,307	—
Convertible debt	12,313	—	13,765	—
Other	2,652	(1,507)	2,080	(1,154)
	195,210	**(161,936)**	**148,895**	**(182,161)**
Valuation allowance	(5,511)	—	(3,703)	—
	189,699	**(161,936)**	**145,192**	**(182,161)**
Net deferred tax assets (liabilities)		**27,763**		**(36,969)**

At December 31, 2016 and 2015, we had $380.7 million and $264.2 million in total foreign net operating loss (NOL) carryforwards. Included in these amounts at December 31, 2016 and 2015, were $109.2 million and $110.3 million of U.S. federal (NOL) carryforwards. At December 31, 2016, the entire NOL in the U.S. is subject to limitations under Section 382 of the Internal Revenue Code. The NOLs in the U.S. will expire beginning December 31, 2022 through December 31, 2032. Also included in the above amount as of December 31, 2016 and 2015, were other foreign NOL carryforwards totaling approximately $271.5 million and $153.9 million, respectively, with $41.9 million of additional NOL added due to acquisitions and $56.4 million added due to German trade tax loss generated in 2016. As of December 31, 2016, we had NOL carryforwards in Germany of $157.4 million predominantly trade tax NOLs. Of the total $271.5 million NOL carryforward, a portion of the foreign NOLs will be expiring beginning December 2017. The valuation allowance amounts as of the years ended December 31, 2016 and December 31, 2015 are $5.5 million and $3.7 million. In 2016, we recorded a valuation allowance of $1.8 million related to NOLs and no valuation allowance was released related to the expiration of statute of limitations. We believe it is more likely than not that the net deferred tax assets as shown above will be realized.

As of December 31, 2016, 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 by subsidiaries amounted to $343.9 million at December 31, 2016. 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 $21.4 million of undistributed earnings that we do not consider permanently reinvested and have recorded deferred income taxes or withholding taxes at December 31, 2016 and December 31, 2015, of approximately $0.9 million.

17. Equity

Synthetic Share Repurchase

In January 2017, we completed a synthetic share repurchase that combined a direct capital repayment with a reverse stock split. The transaction was announced in August 2016 and involved an approach used by various large, multinational Dutch companies to provide returns to all shareholders in a faster and more efficient manner than traditional open-market purchases. $244.0 million was returned to shareholders through the transaction, which reduced the total number of issued common shares by approximately 3.7% to 230.8 million (of which 4.95 million in treasury) as of January 31, 2017.

Issuance of Warrants

In March 2014, in connection with the issuance of our Cash Convertible Notes, we issued warrants (as described in Note 15) for approximately 25.8 million shares of our common stock (subject to antidilution adjustments under certain circumstances) with an initial exercise price of $ 32.085 per share, subject to customary adjustments. The proceeds, net of issuance costs, from the sale of the Warrants of approximately $ 68.9 million are included as additional paid in capital in the accompanying consolidated balance sheets. The Warrants expire as follows: Warrants to purchase 15.2 million shares expire over a period of 50 trading days beginning on December 27, 2018 and Warrants to purchase 10.6 million shares expire over a period of 50 trading days beginning on December 29, 2020. Following the synthetic share repurchase discussed above, the adjusted exercise price is $ 32.056. The Warrants are exercisable only upon expiration. For each Warrant that is exercised, we will deliver to the holder a number of shares of our common stock equal to the amount by which the settlement price exceeds the exercise price, divided by the settlement price, plus cash in lieu of any fractional shares. The Warrants could separately have a dilutive effect on shares of our common stock to the extent that the market value per share of our common stock exceeds the applicable exercise price of the Warrants (as measured under the terms of the Warrants).

Share Repurchase Programs

We announced our first share buyback program in 2012 and in 2013, we announced a second share buyback program, to purchase another $ 100.0 million of our common shares (excluding transaction costs). We completed the share repurchase program in June 2014 having repurchased between September 2013 and June 2014 a total of approximately 4.4 million QIAGEN shares were repurchased for a total aggregate cost of $ 100.4 million (including performance fees), under this program.

In July 2014, we announced the launch of our third 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.

In connection with the synthetic share repurchase program discussed above, we announced additional share repurchases to take place via the open market during the remainder of 2017, with a view to return to our shareholders an aggregate amount of $ 300 million in 2017, including the amounts already returned via the synthetic share repurchase. 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 the warrants issued in connection with the issuance of our Cash Convertible Notes discussed above 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, 2016 and 2015:

[39] **Components of Accumulated Other Comprehensive Loss** — As of December 31

$ 1,000	**2016**	**2015**
Net unrealized (loss) gain on hedging contracts, net of tax	(7,600)	48
Net unrealized (loss) gain on marketable securities, net of tax	(156)	1,215
Net unrealized loss on pension, net of tax	(1,498)	(2,148)
Foreign currency effects from intercompany long-term investment transactions, net of tax of $7.7 million and $7.4 million in 2016 and 2015, respectively	(15,901)	(15,497)
Foreign currency translation adjustments	(308,684)	(242,774)
Accumulated other comprehensive loss	**(333,839)**	**(259,156)**

18. Earnings per Common Share

We present basic and diluted earnings per share. Basic earnings per share is calculated by dividing the net income attributable to the owners of QIAGEN N.V. 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" options and warrants to issue common shares were exercised. The following schedule summarizes the information used to compute earnings per common share:

[40] **Information Used to Compute Earnings per Common Share** — Years Ended December 31

$ 1,000, except per share data	2016	2015	2014
Net income attributable to the owners of QIAGEN N.V.	**80,404**	**130,148**	**116,365**
Weighted average number of common shares used to compute basic net income per common share	234,800	233,483	232,644
Dilutive effect of stock options and restrictive stock units	4,193	5,028	4,841
Dilutive effect of outstanding warrants	—	136	5,321
Weighted average number of common shares used to compute diluted net income per common share	**238,993**	**238,647**	**242,806**
Outstanding options and awards having no dilutive effect, not included in above calculation	**210**	**37**	**422**
Outstanding warrants having no dilutive effect, not included in above calculation	**25,800**	**26,071**	**32,505**
Basic earnings per common share attributable to the owners of QIAGEN N.V.	**0.34**	**0.56**	**0.50**
Diluted earnings per common share attributable to the owners of QIAGEN N.V.	**0.34**	**0.55**	**0.48**

19. Commitments and Contingencies

Lease Commitments

We lease facilities and equipment under operating lease arrangements expiring in various years through 2024. Certain rental commitments provide for escalating rental payments or have renewal options extending through various years. Certain facility and equipment leases constitute capital leases expiring in various years through 2020. The accompanying consolidated balance sheets include the assets and liabilities arising from these capital lease obligations. Rent expense under operating lease agreements was $29.6 million, $23.2 million and $25.6 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Minimum future obligations under capital and operating leases at December 31, 2016 are as follows:

[41] **Minimum Future Obligations**

$1,000	Capital leases	Operating leases
2017	1,114	13,338
2018	1,534	9,292
2019	59	6,121
2020	12	3,752
2021	—	3,409
Thereafter	—	2,690
	2,719	**38,602**
Less: Amount representing interest	(164)	
	2,555	
Less: Current portion	(999)	
Long-term portion	**1,556**	

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 one 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 $7.8 million and $13.8 million at December 31, 2016 and 2015, respectively. Royalty expense relating to these agreements amounted to $35.9 million, $43.2 million, and $48.8 million for the years ended December 31, 2016, 2015 and 2014, 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, 2016, we had commitments to purchase goods or services, and for future license and royalty payments. They are as follows:

[42] **Purchase, License and Royalty Commitments**

$ 1,000	Purchase commitments	License & royalty commitments
2017	61,643	15,969
2018	19,824	11,562
2019	12,257	10,702
2020	891	10,438
2021	661	8,066
Thereafter	—	8,765
	95,276	**65,502**

As of December 31, 2016, future license payments of $14.8 million and $40.3 million are included in accrued and other current liabilities and other long-term liabilities, respectively.

Contingent Consideration Commitments

Pursuant to the purchase agreements for certain acquisitions, as discussed more fully in Note 5, we could be required to make additional contingent cash payments totaling up to $27.6 million based on the achievement of certain revenue and operating results milestones as follows: $15.5 million in 2017, $5.1 million in 2019, and $7.0 million, payable in any 12-month period from now until 2029 based on the accomplishment of certain revenue targets. Of the $27.6 million total contingent obligation, we have assessed the fair value at December 31, 2016, to be $8.8 million, of which $5.8 million is included in other long-term liabilities and $3.0 million is included in accrued 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, 2016, the commitment under these agreements totaled $15.2 million. The employment agreements with the Managing Directors and the German affiliate include a clause, whereby the affiliate will compensate the Managing Directors for potential deductions under Dutch law which, since 2014, has introduced a duty to deduct from a Managing Director's remuneration any increase in the value of shares or options that were part of his pay to the extent that such increase is based on a public offer, merger or other identity changing transaction.

Contingencies

In the ordinary course of business, we provide a warranty to customers that our products are free of defects and will conform to published specifications. Generally, the applicable product warranty period is one year from the date of delivery of the product to the customer or of site acceptance, if required. Additionally, we typically provide limited warranties with respect to our services. From time to time, we also make other warranties to customers, including warranties that our products are manufactured in accordance with applicable laws and not in violation of third-party rights. We provide for estimated warranty costs at the time of the product sale. We believe our warranty reserves as of December 31, 2016 and 2015 appropriately reflect the estimated cost of such warranty obligations.

Preacquisition Contingencies

In connection with certain acquisitions, amounts were paid into escrow accounts to cover preacquisition contingencies assumed in the acquisition. The escrow amounts that are certain to be claimed by QIAGEN are recorded as an other long-term asset and amount to $2.5 million as of December 31, 2016. As of December 31, 2015, $2.5 million was recorded in prepaid expenses and other current assets in the accompanying consolidated balance sheets.

Litigation

From time to time, we may be party to legal proceedings incidental to our business. As of December 31, 2016, certain claims, suits or legal proceedings arising out of the normal course of business have been filed or were pending against QIAGEN or its 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 that the amount of the probable loss can be estimated. 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 QIAGEN's financial position or results of operations.

On September 9, 2016, the U.S. District Court for the Northern District of California, San Francisco Division, issued a decision in which the court granted a motion for a preliminary injunction against us as part of patent litigation filed by a competitor. The lawsuit alleges infringement of U.S. Patent 7,566,537 by our GeneReader NGS System. The latest decision comes as part of a long-standing intellectual property dispute with a competitor and complex litigation among several entities. These types of disagreements are common in the pharmaceutical and diagnostic industries, where new product launches can trigger legal actions by other parties to defend their positions. No meaningful revenue contributions from the GeneReader NGS System were included in our internal financial forecasts for 2016 due to the early launch stage of the system and because commercialization only began in December 2015. As a result of this court decision, which only applies to the U.S., and also in light of the forthcoming upgrade to the component under dispute that is not expected to be impacted by this decision, we neither expect a material financial impact from this decision on our financial outlook for full-year 2017 nor do we currently anticipate any material changes to our internal financial projections for 2017. A trial for this case is currently scheduled to begin in November 2017.

20. 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 10 years, subject to earlier termination in certain situations. Generally, options vest over a three-year period. The vesting and exercisability of certain stock rights will be accelerated in the event of a Change of Control, as defined in the plans. To date, 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 17.9 million Common Shares reserved and available for issuance under the 2005 and 2014 Plans at December 31, 2016.

Revision of Previously Issued Financial Statements for Change in Attribution Method

In the fourth quarter of 2016, we made a change in accounting principle to move from a straight-line attribution method for expense recognition to an accelerated attribution method. As a company with multi-jurisdiction reporting requirements, we made this change to align our share-based compensation expense reporting under both U.S. GAAP and International Financial Reporting Standards (IFRS). This change is preferable because not only does it allow us to harmonize our share-based compensation expense across our reports, whether prepared under U.S. GAAP or IFRS, it provides better alignment of the cost recognition over the vesting periods. Therefore, we have revised our Consolidated Balance Sheet and Consolidated Statements of

Income for the years as noted in the tables below. The change in attribution method reduced the amount of pre-forfeiture share-based compensation expense in the fourth quarter of 2016 by $0.8 million, or $0.5 million after tax. The cumulative effect of the change in accounting principle as of January 1, 2014 was a reduction to retained earnings of $21.1 million, an increase in additional paid-in capital of $29.1 million and an $8.0 decrease in long-term deferred tax liabilities. This revision had no impact on our net cash provided by operating activities for the years ended December 31, 2015 and 2014.

The following tables summarize the selected line items from our consolidated financial statements illustrating the effect of these adjustments to the comparative years and related tax amounts in Note 16 *Income Taxes.*

[43] **Consolidated Balance Sheet** As of December 31, 2015

$ 1,000	**As Reported**	**Change in Attribution Method**	**As Adjusted**
Long-term deferred income taxes	75,726	(6,116)	69,610
Additional paid-in capital	1,741,167	24,428	1,765,595
Retained earnings	1,227,509	(18,312)	1,209,197

[44] **Consolidated Statements of income** Year-Ended December 31, 2015

$ 1,000, except per share data	**As Reported**	**Change in Attribution Method**	**As Adjusted**
Cost of sales	454,611	(283)	454,328
Research and development	147,180	(350)	146,830
Sales and marketing	360,962	(1,364)	359,598
General and administrative, integration and other	103,874	(1,808)	102,066
Income before income taxes	132,498	3,805	136,303
Income taxes	5,641	760	6,401
Net income	**126,857**	**3,045**	**129,902**
Net (loss) income attributable to noncontrolling interest	(246)	—	(246)
Net income attributable to the owners of QIAGEN N.V.	**127,103**	**3,045**	**130,148**
Basic net income per common share attributable to the owners of QIAGEN N.V.	**0.54**	**0.02**	**0.56**
Diluted net income per common share attributable to the owners of QIAGEN N.V.	**0.54**	**0.01**	**0.55**
Weighted-average common shares outstanding			
Basic	233,483	—	233,483
Diluted	237,158	1,489	238,647

[45] **Consolidated Statements of income** Year-Ended December 31, 2014

$ 1,000, except per share data	As Reported	Change in Attribution Method	As Adjusted
Cost of sales	479,839	(269)	479,570
Research and development	163,627	39	163,666
Sales and marketing	376,873	(732)	376,141
General and administrative, integration and other	126,550	87	126,637
Income before income taxes	118,514	875	119,389
Income taxes	1,312	1,144	2,456
Net income	**117,202**	**(269)**	**116,933**
Net (loss) income attributable to noncontrolling interest	568	—	568
Net income attributable to the owners of QIAGEN N.V.	**116,634**	**(269)**	**116,365**
Basic net income per common share attributable to the owners of QIAGEN N.V.	**0.50**	**—**	**0.50**
Diluted net income per common share attributable to the owners of QIAGEN N.V.	**0.48**	**—**	**0.48**
Weighted-average common shares outstanding			
Basic	232,644	—	232,644
Diluted	241,538	1,268	242,806

As a result of these revisions, Note 16--Income Taxes has been revised accordingly from those previously issued with respect to deferred taxes related to share-based compensation.

Stock Options

We have not granted stock options since 2013. A summary of the status of employee stock options as of December 31, 2016 and changes during the year then ended is presented below:

[46] **Employee Stock Option Program Summary**

All employee options	Number of shares (in thousands)	Weighted average exercise price (in $)	Weighted average contractual term (in years)	Aggregate intrinsic value ($ 1,000)
Outstanding at January 1, 2016	1,821	19.37		
Exercised	(354)	17.66		
Forfeited	(3)	18.68		
Expired	(25)	16.21		
Outstanding at December 31, 2016	**1,439**	**19.84**	**3.85**	**11,762**
Vested at December 31, 2016	**1,439**	**19.84**	**3.85**	**11,762**
Vested and expected to vest at December 31, 2016	**1,439**	**19.84**	**3.85**	**11,762**

The total intrinsic value of options exercised during the years ended December 31, 2016, 2015 and 2014 was $3.2 million, $7.0 million and $6.38 million, respectively. At December 31, 2016, there was no unrecognized share-based compensation expense related to employee stock option awards.

At December 31, 2016, 2015 and 2014, 1.4 million, 1.7 million and 2.1 million options were exercisable at a weighted average price of $19.84, $19.27 and $18.10 per share, respectively. The options outstanding at December 31, 2016 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 120% 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 3 to 5 years, and in certain grants 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 6.5%. At December 31, 2016, there was $76.5 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 2.45 years. The weighted average grant date fair value of stock units granted during the years ended December 31, 2016, 2015 and 2014 was $23.81, $24.91 and $22.73, respectively. The total fair value of stock units that vested during the years ended December 31, 2016, 2015 and 2014 was $27.4 million, $28.7 million and $34.1 million, respectively.

A summary of stock units as of December 31, 2016 and changes during the year are presented below:

[47] **Stock Units**

Stock units	Stock units (in thousands)	Weighted average contractual term (in years)	Aggregate intrinsic value ($ 1,000)
Outstanding at January 1, 2016	8,956		
Granted	2,942		
Vested	(1,200)		
Forfeited	(500)		
Outstanding at December 31, 2016	**10,198**	**2.43**	**285,311**
Vested and expected to vest at December 31, 2016	**8,886**	**2.30**	**248,989**

Compensation Expense

Share-based compensation expense before taxes for the years ended December 31, 2016, 2015 and 2014 totaled approximately $28.3 million, $23.8 million and $44.3 million, respectively, as shown in the table below. The excess tax benefit realized for the tax deductions of the share-based payment arrangements totaled $0.8 million, $3.3 million and $1.6 million, respectively, for the years ended December 31, 2016, 2015 and 2014.

[48] **Compensation Expense** — Years Ended December 31

$ 1,000	2016	2015	2014
Cost of sales	2,553	2,177	2,809
Research and development	4,735	5,686	6,696
Sales and marketing	4,824	4,815	9,086
General and administrative	16,176	11,083	25,709
Share-based compensation expense	28,288	23,761	44,300
Less: income tax benefit	6,223	5,751	8,541
Net share-based compensation expense	**22,065**	**18,010**	**35,759**

Following the restructuring program discussed in Note 6, share-based compensation expense in 2016 includes the impact of $2.0 million in forfeitures in connection with the restructuring terminations. Total share-based compensation expense in 2015 was lower compared to 2014 following a reassessment on stock units with performance criteria. No share-based compensation cost was capitalized in inventory in 2016, 2015 or 2014 as the amounts were not material.

21. 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 $2.5 million, $2.4 million and $2.1 million for the years ended December 31, 2016, 2015 and 2014, 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 $0.3 million in each year ended December 31, 2016, 2015 and 2014.

We have four defined benefit, non-contributory retirement or termination plans that cover certain employees in Germany, France, Japan and Italy. These defined benefit plans provide benefits to covered individuals satisfying certain age and 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 $6.7 million at December 31, 2016 and $6.6 million at December 31, 2015, and is included as a component of other long-term liabilities on the accompanying consolidated balance sheets.

22. 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.

[49] **Related Party Transactions**

	As of December 31,		For the years ended December 31,		
$ 1,000	**2016**	**2015**	**2016**	**2015**	**2014**
Net sales	—	—	1,360	418	1,567
Reimbursements against research and development costs	—	—	—	2,032	—
Accounts receivable	1,302	1,209	—	—	—
Loans receivable, including interest	13,067	7,472	—	—	—
Accounts payable	391	471	—	—	—
Accrued and other current liabilities	3,926	—	—	—	—
Other long-term liabilities	5,889	—	—	—	—

During 2015, we entered in a loan agreement for $5.0 million bearing interest of 6% and due in January 2020 with a company in which we hold an ownership interest. In the 2016, we increased this loan by $5.0 million resulting in a loan balance at December 31, 2016 of $10.7 million including accrued interest. Additionally in 2015, we entered into €2.0 million ($2.4 million as of December 31, 2016 including accrued interest), loan agreement, bearing interest of 7% and due in June 2019, with another company in which we hold an ownership interest. The loans were made for general business purposes and no amounts have been repaid. These loans are included in other long-term assets in the accompanying consolidated balance sheet as of December 31, 2016. Additionally during 2016, we entered into a short-term loan arrangement with another company in which we hold an ownership interest. In August 2016, we converted a $0.6 million short-term loan into additional interest of the company which we account for on a cost-method as discussed in Note 10.

As discussed in Note 10, during 2016 we acquired a 19.0% interest in Hombrechtikon Systems Engineering AG (HSE) for a total obligation of $9.8 million, which is payable over three years. As of December 31, 2016, $3.9 million was included in accrued and other current liabilities and $5.9 million was included in other long-term liabilities in the accompanying consolidated balance sheet. HSE is a variable interest entity and we are not the primary beneficiary, therefore HSE is not consolidated. Additionally during 2016, we entered into a short-term $0.6 million loan arrangement with another company in which we hold an ownership interest. In August 2016, we converted this loan into additional interest of the company which we account for on a cost-method as discussed in Note 10.

We held 100% of the equity interest of QIAGEN Finance (Luxembourg) S.A. (QIAGEN Finance), which was established for the purpose of issuing convertible debt. QIAGEN Finance was a variable interest entity with no primary beneficiary, and thus was not consolidated and accordingly, the convertible debt was not included in the consolidated statements of QIAGEN N.V., though QIAGEN N.V. did report the full obligation of the debt through its liabilities to QIAGEN Finance. As discussed in Note 15, during 2015, we repaid the loan to QIAGEN Finance and repurchased the warrant agreement with QIAGEN Finance. Subsequent to these transactions, QIAGEN Finance was liquidated.

23. Subsequent Events

Acquisition

In January 2017, we acquired OmicSoft Corporation, a privately owned bioinformatics company, that markets a suite of tools that allow customers to analyze and visualize data sets and compare them to large, publicly available multi-omics data sets. The acquisition was not individually significant to the overall consolidated financial statements.

Synthetic Share Repurchase

In January 2017, QIAGEN completed a synthetic share repurchase that combined a direct capital repayment with a reverse stock split as discussed in Note 17 *Equity* in the Notes to the Consolidated Financial Statements.

List of Subsidiaries

The following is a list of the Registrant's subsidiaries as of December 31, 2016, other than certain subsidiaries that did not in the aggregate constitute a significant subsidiary.

[50] **QIAGEN Subsidiaries** As of December 31, 2016

Company Name	Jurisdiction of Incorporation
Amnisure International, LLC	USA
Cellestis, LLC	USA
Cellestis Ltd	Australia
MO BIO Laboratories, Inc	USA
QIAGEN Aarhus A/S	Denmark
QIAGEN AB	Sweden
QIAGEN AG	Switzerland
QIAGEN Australia Holding Pty. Ltd	Australia
QIAGEN Benelux B.V.	Netherlands
QIAGEN Beverly, Inc	USA
QIAGEN China (Shanghai) Co. Ltd.	China
QIAGEN Deutschland Holding GmbH	Germany
QIAGEN Distribution B.V.	Netherlands
QIAGEN Finance (Ireland) Ltd.	Ireland
QIAGEN Finance (Malta) Ltd.	Malta
QIAGEN France S.A.S	France
QIAGEN Gaithersburg, Inc.	USA
QIAGEN GmbH	Germany
QIAGEN Hamburg GmbH	Germany
QIAGEN Inc. (Canada)	Canada
QIAGEN Inc. (USA)	USA
QIAGEN Instruments AG	Switzerland
QIAGEN K.K.	Japan
QIAGEN Korea	South Korea
QIAGEN Lake Constance GmbH	Germany
QIAGEN Ltd.	UK
QIAGEN Manchester Ltd	UK
QIAGEN Marseille SA	France
QIAGEN Mexico, S. de R.L. de C.V	Mexico
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 U.S. Finance Holdings (Luxembourg) SARL	Luxembourg
QIAGEN Waltham, Inc.	USA
Quanta BioSciences, Inc.	USA
SA Biosciences, LLC	USA

Report Of Independent Registered Public Accounting Firm

The Supervisory Board of QIAGEN N.V.:

We have audited the accompanying consolidated balance sheets of QIAGEN N.V. and subsidiaries ("the Company") as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income (loss), changes in equity, and cash flows for each of the years in the twoyear period ended December 31, 2016. In connection with our audits of the consolidated financial statements, we also have audited the financial statement schedule as listed in Item 18 (A). These consolidated financial statements and the financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements and the financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of QIAGEN N.V. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the years in the twoyear period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the related financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

As discussed in Note 1 to the consolidated financial statements, in 2016, the Company changed its accounting method of share-based compensation from a straight-line attribution method for expense recognition to an accelerated attribution method. The Company applied this change in accounting principle retrospectively to all prior periods presented.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), QIAGEN N.V.'s internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 3, 2017 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft
Düsseldorf, Germany

March 3, 2017

Report Of Independent Registered Public Accounting Firm

The Supervisory Board and Shareholders of QIAGEN N.V. and Subsidiaries

We have audited the accompanying consolidated statements of income, comprehensive income, changes in equity and cash flows of QIAGEN N.V. and Subsidiaries for the year ended December 31, 2014. Our audit also included the financial statement schedule listed in the Index at Item 18(A). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audit.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated results of their operations and their cash flows for the year ended December 31, 2014, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

February 27, 2015

Except for Note 20 as to which the date is March 3, 2017

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft
Düsseldorf, Germany

/s/ Hendrik Hollweg
Wirtschaftsprüfer
(German Public Auditor)

/s/ Tobias Schlebusch
Wirtschaftsprüfer
(German Public Auditor)

Report Of Independent Registered Public Accounting Firm

The Supervisory Board of QIAGEN N.V.:

We have audited QIAGEN N.V.'s ("QIAGEN" or "the Company") internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). 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 conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). 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 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.

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.

In our opinion, QIAGEN N.V. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of QIAGEN N.V. and subsidiaries as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income (loss), changes in equity, and cash flows for each of the years in the two-year period ended December 31, 2016, and the related financial statement schedule as listed in Item 18 (A), and our report dated March 3, 2017 expressed an unqualified opinion on those consolidated financial statements and the related financial statement schedule as listed in Item 18 (A).

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft
Düsseldorf, Germany

March 3, 2017

Glossary

A

Allele An alternative form of a gene found in a person's DNA. An individual inherits two alleles for each gene, one from each parent. Alleles can be associated with healthy inherited traits or with risk for diseases.

Amplification Making multiple copies of nucleic acid sequences to enable analysis for diagnostic or identification purposes. Various technologies are used to amplify genomic information in the laboratory, the most popular being the Polymerase Chain Reaction (PCR).

Applied Testing Use of Sample & Assay Technologies for professional applications beyond healthcare and research, including human identification and forensics, veterinary testing, food safety and other uses in non-human health applications.

Assay Analysis to determine the presence, absence, or quantity of one or more components; a test used in this analysis.

Autoimmune disease An illness that occurs when the body tissues are attacked by its own immune system.

Automation Use of technologies to take the place of time-consuming manual work. For instance, instruments can carry out complete workflows for sample preparation, assay set-up or sequencing of nucleic acids. Automation accelerates laboratory processes, reduces errors and saves money.

B

Bacillus Calmette-Guérin (BCG) A vaccine against tuberculosis.

Bioinformatics Software tools to generate useful biological knowledge and store, retrieve, organize and analyze biological data.

Biomarker Molecules found in the body that indicate a specific biological condition such as a disease, predisposition to a disease, or response to drugs, which are increasingly used to personalize medical treatments for various conditions.

Biomedical research Scientific investigation of any matter related to living or biological systems. "Biomedical" usually denotes an emphasis on problems related to human health and diseases.

C

CE mark A mandatory mark, officially called "CE marking," that designates products as meeting safety, health and environmental requirements for the European Economic Area (EEA). The CE mark is a precondition to market products that can be used for *in vitro* diagnostics in Europe, and is also accepted by many other countries outside of Europe.

Clinical trial A research study involving patients or human subjects. The most common clinical trials evaluate new drugs, medical devices, biologics, or other patient interventions in scientifically controlled settings, and are required for regulatory approval of new therapies or diagnostics.

Companion diagnostics A key tool for personalized medicine. Companion diagnostics are tests administered ahead of, or in combination with, individual drug therapies, allowing physicians to assess the likely outcome and safety, and eliminating a "trial and error" approach to treatment of disease.

Consumables Expendable kits that contain all necessary components such as enzymes, chemical reagents or laboratory plasticware needed to process a specified number of samples or to perform a molecular test to detect and analyze defined targets of interest. Consumable products also include bioinformatics software to analyze, interpret and report the test results.

CT Chlamydia trachomatis, a disease-causing bacteria. Chlamydia infections are the most common bacterial sexually transmitted infections in humans and are the leading cause of infectious blindness worldwide.

Cytology Study of cells and their structure, function, multiplication and pathology.

Cytomegalovirus infection (CMV) A member of the herpes virus group, which also includes herpes simplex virus, varicella-zoster virus (which causes chickenpox) and Epstein-Barr virus (which causes infectious mononucleosis). These viruses share a characteristic ability to remain dormant within the body over a long period.

D

DNA Deoxyribonucleic acid is a molecule seen as a basic building block of life. It contains genetic information including the instructions needed for an organism to develop,

survive and reproduce. In DNA, two strands form a double helix structure built up from the four nucleotides, or "bases," adenine, cytosine, guanine and thymine (A, C, G, and T).

DNA methylation A type of chemical modification, where DNA acts as an "on" and "off" switch for individual genes. Methylation patterns can be analyzed to diagnose conditions and determine the presence or absence of disease.

DNA sequencing The process used to obtain the sequential DNA arrangement of the nucleotides, or "bases," A, C, G and T. The DNA sequence carries information that a cell needs to assemble protein and RNA molecules and is important in investigating the functions of genes.

Drug target The biological target for a medicine to act in the body and fight disease.

E

Epstein-Barr virus (EBV) A virus of the herpes family, and one of the most common viruses in humans. It is best known as the cause of infectious mononucleosis. It is also called human herpesvirus 4 (HHV-4).

Enzyme-linked immunosorbent assay (ELISA) A test that uses antibodies and color change to identify a substance.

Epigenetics A research area devoted to the analysis of hereditary factors that may have an impact on the phenotype of an organism or its gene expression, but are not associated with changes in the underlying DNA sequence. A key mechanism in epigenetics is DNA methylation.

Exosomes Exosomes are a key part of the body's complex communication system, transferring genetic instructions by carrying nucleic acids and proteins between cells. These microvesicles are shed under both normal and pathological conditions and can be isolated from biofluids such as blood, urine and cerebrospinal fluid. Exosomes hold great promise for biomarker discovery and for personalized healthcare diagnostics.

F

FDA The Food and Drug Administration is an agency of the U.S. Department of Health and Human Services responsible for regulating drugs, medical devices, biologicals such as vaccines, food, dietary supplements, blood products, radiation-emitting devices, veterinary products and cosmetics in the United States.

FFPE Formalin-fixed, paraffin-embedded: a standard method of preparing and storing biological materials. Tissue samples are fixed (preserved) with the chemical formalin and embedded in wax. Ultrathin sections are then sliced from the FFPE sample to extract DNA or RNA for molecular testing in research or diagnostics.

Forensics Application of scientific techniques to legal matters – for example, analysis of physical evidence from crime scenes or use of DNA evidence for identification of victims or perpetrators.

G

Gene expression Transfer of genetic information to its active form, usually from DNA via RNA (transcription) into proteins (translation).

Gene panel An advanced assay technology to detect multiple genes or variants in one test. Using next-generation sequencing, a gene panel might target 20, 40 or 100 different genes or mutations involved in a particular kind of cancer or other conditions. In personalized healthcare, gene panels help to guide the treatment of each patient's unique disease.

Gene silencing Repression of gene expression, especially using the recently discovered mechanism of RNAi (RNA interference). siRNA duplexes can be designed to target and repress expression of specific genes.

Genome The entire genetic information of an organism. In most organisms it consists of DNA; in some viruses it can consist of RNA.

Genomic DNA A representative sample of DNA contained in a genome.

Genomics Scientific study of genes and their role in an organism's structure, growth, health, disease, ability to resist disease, etc.

Genotyping Genetic fingerprinting, DNA testing, DNA typing, and DNA profiling – study or testing of variations in the genetic information among different individuals.

H

HAI Healthcare-associated infection. Typically transmitted in hospitals or nursing care facilities, pathogens known as HAIs pose a potentially lethal danger to already vulnerable patients. Healthcare institutions face a large economic burden treating HAIs and preventing contagion.

Hepatitis B An infectious inflammatory illness of the liver caused by the hepatitis B virus (HBV).

Hepatitis C An infectious disease affecting primarily the liver, caused by the hepatitis C virus (HCV).

High-throughput screening Testing of large numbers of samples, often simultaneously.

Histopathology The microscopic examination of tissue in order to study the manifestations of disease.

HIV The virus that causes acquired immune deficiency syndrome (AIDS); it replicates in and kills the helper T cells.

HLA Human leukocyte antigen is a gene product of the major histocompatibility complex that influences immune response. These antigens play an important role in human organ transplantation, transfusions in refractory patients and certain disease associations.

HPV A virus identified as a necessary factor in the development of nearly all cases of cervical cancer in women. Approximately 130 human papillomavirus (HPV) types have been identified. Persistent infection with one of 15 "high-risk" subtypes of sexually transmitted HPV may lead to potentially precancerous lesions and can progress to invasive cancer.

Hybrid capture Proprietary technology used to detect various infections such as HPV, chlamydia trachomatis (CT), Neisseria gonorrhea (GC) and cytomegalovirus (CMV). In "hybrid capture," RNA probes bind to DNA in the targeted virus or bacterium, forming a "hybrid." This hybrid is then "captured" by an antibody added to the solution. In a later step, additional antibodies that produce light in the presence of hybrids are introduced. They bind to the hybrids, resulting in the emission of light that is measured by an instrument called a luminometer. The amount of light detected indicates the amount of target DNA present.

I

IGRA Abbreviation for *interferon gamma release assay*, a class of modern tests for detection of tuberculosis infections. Thereby, extracted components of TB bacteria are added to a blood sample. If the patient's immune system has been exposed to the disease, T-cells in the blood sample are re-stimulated and begin releasing interferon-gamma, whose concentration can be later measured using a specialized laboratory instrument. The underlying technology can also be used to detect other infections.

Immunoassay Biochemical test that measures concentration of a specific antibody in a biological liquid, typically serum or urine, using the reaction of an antibody or antibodies to its antigen. The assay takes advantage of the specific binding of an antibody to its antigen.

Infectious disease Any disease caused by the entrance, growth, and multiplication of microorganisms in the body; a germ disease.

Instrument A device that performs parts or all of the processes in a molecular testing workflow, such as sample preparation or sequencing of nucleic acids. Instruments can be single-purpose, multi-purpose or integrated complete solutions for laboratories, either in research or diagnostics.

In vitro diagnostics These tests, known as IVD, are medical devices intended to perform diagnoses from assays in a laboratory test tube, or more generally in a controlled environment outside a living organism. In Latin, *in vitro* means "in glass."

L

Laboratory-developed tests *In vitro* diagnostic tests that are developed, validated and used for in-house pathology and diagnostic purposes. LDTs are intended for use only by the laboratory entity where they are developed, unlike the majority of commercially marketed laboratory tests which are manufactured by medical device companies and sold to laboratories, hospitals or physicians' offices, and must be cleared or approved by the Food and Drug Administration.

Latent tuberculosis A patient is infected with Mycobacterium tuberculosis, but does not have active tuberculosis disease. The

main risk is that approximately 10% of these patients will go on to develop active tuberculosis at a later stage of their life.

Listeria A type of bacterium (Listeria monocytogenes) that infects humans and other warm-blooded animals through contaminated food.

Liquid biopsy A minimally invasive procedure to collect samples from blood, urine or other body fluids for molecular testing. Traditional tissue samples require costly and sometimes risky surgical biopsies. Liquid biopsies can provide tumor cells, free circulation nucleic acids or RNA from exosomes when a tissue sample is not available or patients need to be tested repeatedly in monitoring a disease.

M

MicroRNAs (miRNAs) Single-stranded RNA molecules of about 21 – 23 nucleotides in length, which regulate gene expression. miRNAs are encoded by genes that are transcribed from DNA but not translated into proteins (non-coding RNA).

Molecular biology The study of life processes at the molecular level, typically through the study of nucleic acids (DNA and RNA) and proteins.

Molecular diagnostics The use of DNA, RNA and proteins to test for specific health conditions in humans.

Multiplex assay A type of laboratory procedure that performs multiple assays concurrently.

Mutation Permanent change in hereditary information. Mutations can differ in their extent, take place in the germ line or other tissue types, and occur spontaneously or as a result of environmental factors. Mutations play a special role in certain diseases such as cancer and can serve as biomarkers for the efficacy and/or safety of drugs.

N

Next-generation sequencing (NGS) The process of determining the precise order of nucleotides within a DNA molecule. It includes any method or technology that is used to determine the order of the four bases – adenine, guanine, cytosine, and thymine – in a strand of DNA. The advent of NGS has greatly accelerated biological and medical research and discovery.

Nucleic acid Single or double-stranded polynucleotides involving RNA or DNA, which are the crucial building blocks of life involved in the storage and expression of genetic information.

O

Oncogene An oncogene is a gene that, when mutated or expressed at high levels, helps turn a normal cell into a tumor cell. Examples are PI3K, BRAF, KRAS, BCL-ABL.

P

Pap smear The Papanicolaou test (also called Pap smear, Pap test, cervical smear, or smear test) is a cytology-based screening test used to detect premalignant and malignant (cancerous) processes in the cervix.

Pathogen A pathogen or infectious agent is a biological agent that causes disease or illness.

Pathway A series of metabolic/biological actions among molecules in a cell. An understanding of entire pathways and the complex interactions of all molecules involved – as opposed to the study of individual molecules – is a key to understanding the specifics of many diseases and the development of new diagnostics and drugs.

PCR Polymerase chain reaction is the most widely used laboratory technique to amplify DNA or RNA sequences. The temperature of a sample is repeatedly raised and lowered to help heat-stable polymerase enzymes copy the target nucleic acid sequence. PCR can produce a billion copies of the target sequence in a few hours.

Personalized medicine Use of information from a patient's genotype, level of gene expression and other clinical data to stratify disease, select a medication or dosage, or initiate a therapeutic or preventive measure that is particularly suited to that patient at the time of administration.

Pharmacogenomics Analyzing the entire spectrum of genes that determine drug behavior and sensitivity, pharmacogenomics is concerned with genetic effects on drugs themselves, and with genetic variances that contribute to variable effects of drugs in different individuals.

Polymerases Enzymes that catalyze the production of a nucleic acid strand using an existing strand as a template – used in PCR and RT-PCR.

Predisposition A genetic effect that influences the observable characteristics of an organism but can be modified by environmental conditions. Genetic testing can identify individuals who are genetically predisposed to certain health problems.

Primer A strand of nucleic acid that serves as a starting point for DNA or RNA synthesis. They are required because the enzymes that catalyze replication, DNA polymerases, can only add new nucleotides to an existing strand of DNA.

PROM Premature rupture of fetal membranes, a common complication in pregnancy occurring in up to 10% of all women. PROM is characterized by a rupture of the protective amniotic sac and discharge of amniotic fluid before the start of labor. If not diagnosed early, it can lead to complications such as infections, sepsis, brain damage, premature birth or miscarriage.

Pyrosequencing A next-generation DNA sequencing technology based on the "sequencing by synthesis" principle. Pyrosequencing enables decoding of short to medium-length DNA sequences and is highly useful for analyzing DNA methylation patterns.

R

Reagent A chemical substance (other than the specimen) used in conducting a diagnostic test/assay.

Real-time PCR Polymerase chain reaction in real time that involves the sequence-specific amplification of DNA molecules using heat-stable polymerase enzymes. It is often used to measure the amount of a specific DNA molecule in a sample.

Reverse transcription The process of making a double stranded DNA molecule from a single stranded RNA template through the enzyme, reverse transcriptase.

RNA Ribonucleic acid is one of the building blocks of life, included in many types of biologically relevant molecules, especially mRNA (messenger RNA), which is copied from DNA and encodes proteins.

RNAi RNA interference is one methodology used to cause gene silencing.

RT-PCR Reverse-transcriptase polymerase chain reaction is a technique that transcribes RNA molecules into DNA molecules, which are then amplified by PCR.

S

Sensitivity A statistical measure of how well a test correctly identifies a condition. For example, with a medical test to determine if a person has a certain disease, the sensitivity is the probability that if the person has the disease, the test result will be "positive." High sensitivity is required when early diagnosis and treatment are beneficial to patients, or when a disease is infectious and screening is useful to containing it.

siRNA Short interfering RNA is a specific short sequence of double-stranded RNA (dsRNA) with less than 30 base pairs.

SNP Single nucleotide polymorphism – DNA sequence variations occurring when a single nucleotide (A, T, C or G) in the genome differs between members of a species. Variations in DNA sequences can affect how humans develop diseases and respond to pathogens, drugs, vaccines and other agents, and thus serve as potential biomarkers. SNPs are thought to be key enablers in achieving the potential of personalized medicine.

Specificity A statistical measure of how well a test correctly identifies the negative cases, those that do not meet the condition under study. For example, specificity in a medical test to determine if a person has a certain disease is the probability that a "negative" result accurately indicates that the person does not have the disease. High specificity is important when the treatment or diagnosis could be harmful to patients mentally and/or physically.

Swine flu Any strain of the influenza virus that can be endemic in pigs (swine), and also found in humans. The 2009–2010 pandemic in humans, widely known as "swine flu" or "H1N1," was due to a strain of influenza. A virus subtype H1N1 that global health authorities viewed as a particularly dangerous threat.

T

Test kit An FDA cleared or approved test package that includes all of the reagents necessary to obtain test results and a protocol with instructions for using the test kit.

Translational medicine The findings in basic research are more quickly and efficient-

ly translated into medical practice and resulting in faster and better outcomes for patients.

Tuberculin skin test (TST), also known as the *Mantoux test*, is more than 100 years old yet still frequently used to diagnose infections with TB bacteria. During the test, patients receive a specific injection under their skin. After 48 to 72 hours, the puncture is examined for potential swelling and redness as signs of an older or existing TB infection. The test is widely seen to be obsolete, as it produces a high number of false positive results, is subjective and less cost-effective than alternative modern detection methods.

Trichella The genus of parasitic roundworms of the phylum Nematoida that cause trichinosis.

W

Workflow An orderly series of steps a laboratory must follow to take a sample from raw biological material through isolation and purification, identification and measurement by molecular assays, on to analysis and through final results. Automation systems increasingly move beyond individual lab tasks to focus on enhancing the efficiency of entire workflows.

Z

Zoonosis A disease that normally exists in animals but that can infect humans. There are multitudes of zoonotic diseases.

Service

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FINANCIAL CALENDAR

May 2, 2017
First Quarter 2017 Results

June 21, 2017
Annual General Meeting of Shareholders of QIAGEN N.V.

July 27, 2017
Second Quarter 2017 Results

November 2, 2017
Third Quarter 2017 Results

January 2018
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For a complete list of QIAGEN's trademarks and disclaimers, please refer to QIAGEN's webpage under www.QIAGEN.com/trademarks_disclaimers.aspx

In this annual report, QIAGEN uses the term molecular diagnostics. The use of this term is in reference to certain countries, such as the United States, limited to products subject to regulatory requirements. As of February 2016, QIAGEN molecular diagnostics products included 16 FDA (PMA approved or 510k cleared) products, 16 clinical sample concentrator products (13 kits and 3 instruments), 64 EU CE IVD assays, 18 EU CE IVD sample preparation products, 18 EU CE IVD instruments for sample purification or detection, 38 China CFDA IVD assays and 9 China CFDA IVD instruments.

This Annual Report may also contain trade names or trademarks of companies other than QIAGEN.

This document contains detailed financial information about QIAGEN prepared under generally accepted accounting standards in the U.S. (U.S. GAAP) and included in our Form 20-F annual report filed with the U.S. Securities and Exchange Commission. QIAGEN also publishes an Annual Report under IFRS accounting standards, which is available on our website at www.QIAGEN.com.