

Section 1: 424B5 (424B5)

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Filed Pursuant to Rule 424(b)(5)
Registration No. 333-231098

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to the shares has become effective under the Securities Act of 1933, as amended. This preliminary prospectus supplement and the accompanying prospectus do not constitute an offer to sell the shares and it is not soliciting an offer to buy the shares in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JULY 15, 2019

Preliminary Prospectus Supplement
(to Prospectus dated April 29, 2019)



REPLIGEN CORPORATION

\$250,000,000
% Convertible Senior Notes due 2024

We are offering \$250,000,000 principal amount of our % Convertible Senior Notes due 2024, or the notes. The notes will bear interest at a rate of % per year, payable semiannually in arrears on January 15 and July 15 of each year, beginning on January 15, 2020. The notes will mature on July 15, 2024, unless earlier converted or repurchased.

Holders may convert their notes at their option at any time prior to the close of business on the business day immediately preceding April 15, 2024 only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on September 30, 2019 (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 the period of 30 consecutive trading days ending on, and including, 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; (2) during the five business day period after any five consecutive trading day period, or the measurement period, in which the “trading price” (as defined in this prospectus supplement) per \$1,000 principal amount of notes, as determined following a request by a holder of notes in accordance with the procedures described herein, 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; or (3) upon the occurrence of specified corporate events. On or after April 15, 2024 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their notes at any time, regardless of the foregoing circumstances. Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election, as described in this prospectus supplement.

The conversion rate will initially be shares of common stock per \$1,000 principal amount of notes (equivalent to an initial conversion price of approximately \$ per share of common stock). The conversion rate will be subject to adjustment upon the occurrence of certain events but will not be adjusted for any accrued and unpaid interest. In addition, following certain corporate events that occur prior to the maturity date, we will, in certain circumstances, increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event.

We may not redeem the notes prior to the maturity date, and no sinking fund is provided for the notes.

If we undergo a fundamental change (as defined in this prospectus supplement), holders may require us to repurchase for cash all or any portion of their notes at a fundamental change repurchase price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The notes will be our senior unsecured obligations and will rank senior in right of payment to all of our indebtedness that is expressly subordinated in right of payment to the notes; equal in right of payment to any of our unsecured indebtedness that is not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities of our current or future subsidiaries (including trade payables).

Concurrently with this offering of notes, we are offering \$100 million of our common stock (or \$115 million of our common stock if the underwriters in that offering exercise their option to purchase additional shares in full) in an underwritten offering pursuant to a separate prospectus supplement, or the Concurrent Common Stock Offering. Assuming an offering price of \$85.00 per share, the last reported sale price of our common stock on the Nasdaq Global Select Market on July 12, 2019, we expect to offer 1,176,470 shares of common stock in the Concurrent Common Stock Offering. The closing of this offering of notes is not conditioned upon the closing of the Concurrent Common Stock Offering and the closing of the Concurrent Common Stock Offering is not conditioned upon the closing of this offering of notes. This prospectus supplement is not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Common Stock Offering.

We do not intend to apply to list the notes on any securities exchange or any automated dealer quotation system. Our common stock is listed on the Nasdaq Global Select Market under the symbol “RGEN.” The last reported sale price of our common stock on the Nasdaq Global Select Market on July 12, 2019 was \$85.00 per share.

	Per Note	Total
Public offering price ⁽¹⁾	\$	\$
Underwriting discounts and commissions ⁽²⁾	\$	\$
Proceeds to Repligen Corporation, before expenses	\$	\$

(1) Plus accrued interest, if any, from July , 2019.

(2) We have agreed to reimburse the underwriters for certain expenses. See “Underwriting.”

Investing in the notes involves a high degree of risk. See “[Risk Factors](#)” beginning on page S-23 of this prospectus supplement, in our Annual Report on Form 10-K for the year ended December 31, 2018 and in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, which are incorporated herein by reference.

We have granted the underwriters an option to purchase, within a 13-day period from, and including, the initial issuance date of the notes, up to an additional \$37,500,000 principal amount of additional notes from us at the public offering price, less underwriting discounts and commissions, solely to cover over-allotments, if any.

Neither the Securities and Exchange Commission (the “SEC”) nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

We expect that delivery of the notes will be made to investors in book-entry form through the Depository Trust Company on or about July , 2019.

Sole Book-Running Manager

J.P. Morgan

The date of this prospectus supplement is July , 2019.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is part of the registration statement that we filed with the SEC using a “shelf” registration process and consists of two parts. The first part is this prospectus supplement, including the documents incorporated by reference, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference, gives more general information, some of which may not apply to this offering. Generally, when we refer to the “prospectus,” we are referring to both parts combined. This prospectus supplement and any free writing prospectus we authorize for use in connection with this offering may add to, update or change information in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement or the accompanying prospectus.

If information in this prospectus supplement is inconsistent with the accompanying prospectus or with any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, you should rely on this prospectus supplement. This prospectus supplement, the accompanying prospectus, the documents incorporated by reference into each of them and any free writing prospectus we authorize for use in connection with this offering include important information about us, the notes and other information should you consider before investing in the notes. See “Incorporation of Certain Information by Reference.”

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein or in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties and covenants were made as of a date prior to the date of this prospectus supplement, and facts and circumstances may have changed since such date. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

We take no responsibility for, and can provide no assurances as to the reliability of, any information that is in addition to or different from that contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. We are not offering to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained or incorporated by reference in this prospectus supplement or the accompanying prospectus is accurate as of any date other than as of the date of this prospectus supplement or the accompanying prospectus, as the case may be, or in the case of the documents incorporated by reference, the date of such documents regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or any sale of our securities. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates.

All references in this prospectus supplement or the accompanying prospectus to “Repligen,” the “Company,” “we,” “us,” or “our” mean Repligen Corporation and our subsidiaries, unless we state otherwise or the context otherwise requires.

This prospectus supplement, the accompanying prospectus and the information incorporated herein and therein by reference contain references to trademarks, service marks and trade names owned by us or other companies. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus supplement, the accompanying prospectus and the information incorporated herein and therein, including logos, artwork, and other visual displays, may appear without the® or™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks and trade names. We do not intend our use or display of other companies’ trade names, service marks or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement, the accompanying prospectus or any related free writing prospectus are the property of their respective owners.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein contain, and any free writing prospects we authorize for use in connection with this offering may contain, statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements may contain projections of our future results of operations or of our financial position or state other forward-looking information. In some cases you can identify these statements by forward-looking words such as “anticipate,” “believe,” “could,” “continue,” “estimate,” “expect,” “intend,” “may,” “should,” “will,” “would,” “plan,” “projected” or the negative of such words or other similar words or phrases. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements.

Investors are cautioned not to unduly rely on forward-looking statements because they involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the acceptance by the market of our products;
- the implementation of our business model, strategic plans for our business, products and technology;
- the timing of and our ability to complete and successfully integrate acquisitions, including the C Technologies, Inc., or C Technologies, acquisition;
- our expectations relating to the synergies, cost savings and other benefits of acquisitions, including the C Technologies acquisition;
- the growth of our business into new markets and geographies;
- our ability to maintain and establish key customer relationships;
- our ability to identify and engage in strategic partnerships;
- estimates of our expenses, future revenues and capital requirements;
- our financial performance;
- preliminary estimates for our second quarter financial results;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our products and technology;
- developments relating to our competitors and our industry;
- the Concurrent Common Stock Offering (as described in “Prospectus Supplement Summary—Concurrent Common Stock Offering”);
- the redemption, exchange or conversion of our existing 2.125% Convertible Senior Notes due 2021, or the 2016 Notes;
- our expected or intended use of proceeds from this offering and the Concurrent Common Stock Offering; and
- other risks and uncertainties, including those listed under the caption “Risk Factors” below and in any documents incorporated by reference herein.

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Given these uncertainties, readers should not place undue reliance on our forward-looking statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. Except as may be required by applicable law, we do not undertake or intend to update any forward-looking statements after the date of this prospectus supplement or the accompanying prospectus or the respective dates of documents incorporated by reference herein or therein that include forward-looking statements.

PRESENTATION OF NON-GAAP FINANCIAL INFORMATION

Non-GAAP Adjusted Income From Operations, Non-GAAP Adjusted Net Income, Non-GAAP Adjusted EBITDA, and Non-GAAP Earnings Per Share (Diluted), which are presented in this prospectus supplement, are not required by, or presented in accordance with, generally accepted accounting principles in the United States, or GAAP. We include this non-GAAP financial information because we believe these measures provide a useful comparison of our financial results between periods and reflect how management reviews its financial results. These financial measures exclude the impact of certain acquisition-related items because we believe that the resulting charges do not accurately reflect the performance of our ongoing operations for the period in which such charges were incurred.

We define Non-GAAP Adjusted Income From Operations as income from operations as reported in accordance with GAAP, excluding acquisition and integration costs, inventory step-up charges, and amortization of intangible assets booked through our condensed consolidated statements of comprehensive income. Similarly, we define Non-GAAP Adjusted Net Income as net income as reported in accordance with GAAP, excluding acquisition and integration costs and related tax effects, inventory step-up charges, amortization of intangible assets and related tax effects, non-cash interest expense, the partial release of valuation allowance on our deferred tax assets and the net impact of tax reform legislation booked through our condensed consolidated statements of comprehensive income. We define Non-GAAP Adjusted EBITDA as net income as reported in accordance with GAAP, excluding investment income, interest expense, taxes, depreciation and amortization, acquisition and integration costs and inventory step-up charges booked through our condensed consolidated statements of comprehensive income. Finally, we define Non-GAAP Adjusted Earnings Per Share (Diluted) as net income per share as reported in accordance with GAAP, excluding acquisition and integration costs, inventory step-up charges, amortization of intangible assets and related tax effects, partial release of valuation allowance on deferred tax assets and net impact of tax reform legislation and non-cash interest expense booked through our condensed consolidated statements of comprehensive income.

Non-GAAP Adjusted Income From Operations, Non-GAAP Adjusted Net Income, Non-GAAP Adjusted EBITDA and Non-GAAP Adjusted Earnings Per Share (Diluted) are not recognized terms under GAAP. Because some companies do not calculate Non-GAAP Adjusted Income From Operations, Non-GAAP Adjusted Net Income, Non-GAAP Adjusted EBITDA, and Non-GAAP Adjusted Earnings Per Share (Diluted) in the same way as we do and financial metrics reported by other companies under the same or similar captions may not be comparable, from a financial point of view, to any financial measures we report, our non-GAAP financial measures should not be considered as alternative measures of operating profit or net income, and do not replace the presentation of our financial results in accordance with GAAP.

For reconciliations of our income from operations, net income and earnings per share, as applicable, to Non-GAAP Adjusted Income From Operations, Non-GAAP Adjusted Net Income, Non-GAAP Adjusted EBITDA and Non-GAAP Adjusted Earnings Per Share (Diluted), see “Summary Consolidated Financial Data—Reconciliation of Non-GAAP Financial Measures.”

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary may not contain all the information that you should consider before making your investment decision. You should read this entire prospectus supplement and the accompanying prospectus carefully, especially the risks of investing in our securities discussed under “Risk Factors” beginning on page S-23 of this prospectus supplement, along with our consolidated financial statements and notes to those consolidated financial statements and our unaudited pro forma condensed combined financial statements and notes to those financial statements and the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus we authorize for use in connection with this offering, before making an investment decision. This prospectus supplement may add to, update or change information in the accompanying prospectus.

Overview

Repligen and its subsidiaries, collectively doing business as Repligen Corporation, is a leading provider of advanced bioprocessing technologies and solutions used in the process of manufacturing biologic drugs. Our products are made to substantially increase biopharmaceutical manufacturing efficiencies and flexibility. As the global biologics market continues to experience strong growth and expansion, our customers – primarily large biopharmaceutical companies and contract development and manufacturing organizations, or CDMOs, face critical production cost, capacity, quality and time pressures that our products are made to address. We believe that our commitment to bioprocessing is helping to set new standards for the way our customers manufacture biologic drugs, including monoclonal antibodies, recombinant proteins, vaccines and gene therapies. We are dedicated to inspiring advances in bioprocessing as a trusted partner in the production of biologic drugs that improve human health worldwide.

We currently operate as one bioprocessing business, with a comprehensive suite of products to serve both upstream and downstream processes in biologic drug manufacturing. Building on over 35 years of industry expertise, we have developed a broad and diversified product portfolio that reflects our commitment to build a best-in-class bioprocessing technology company with a world-class direct sales and commercial organization. Our bioprocessing business is currently comprised of four main franchises – Proteins, Filtration, Chromatography and Process Analytics. Based on internal estimates and assumptions, we believe our Proteins, Filtration, Chromatography and Process Analytics franchises sell into addressable markets of approximately \$475 million, \$900 million, \$180 million, and \$500 million respectively, for an aggregate addressable market of approximately \$2.1 billion.

Our Proteins franchise is represented by our Protein A affinity ligands, which are a critical component of Protein A chromatography resins used in downstream purification, and cell culture growth factor products, which are a key component of cell culture media used upstream to increase cell density in a bioreactor and improve product yield. We sell these products through supply and distribution agreements with life sciences companies. Using ligands and growth factors manufactured and/or owned by Repligen, our life sciences customers produce and sell Protein A resins and cell culture media, respectively, to end users (biopharmaceutical companies and CDMOs).

Our Filtration franchise includes our XCell™ ATF (alternating tangential flow) systems for use in upstream process intensification, our single-use SIUS™ TFF (tangential flow filtration) cassettes for use in downstream concentration and formulation processes, our KrosFlo® line of hollow fiber TFF cartridges and systems used in both upstream clarification and downstream formulation processes, and our Pro-Connex® single-use flow paths and single-use tubing sets used in TFF applications. Our Filtration franchise has grown to be our largest franchise through a combination of acquisitions and internal innovation. We sell our filtration products directly to end users.

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Our Chromatography franchise includes a number of products used in the downstream purification and quality control of biological drugs. We sell a broad range of OPUS® pre-packed chromatography columns, or PPCs, as well as chromatography resins and ELISA test kits. We sell our chromatography products direct to end users.

Our acquisition of C Technologies, which was consummated on May 31, 2019, added our fourth franchise, Process Analytics, to our bioprocessing business. With the acquisition of C Technologies, we plan to expand our analytics and testing systems beyond our ELISA test kits. We believe our acquisition of C Technologies will help to establish Repligen in the bioprocess analytics industry with differentiated protein measurement technologies and an R&D portfolio focused on enabling real-time process monitoring in upstream and downstream applications.

Our “go direct” approach includes five acquisitions since 2014, multiple new product launches through internal innovation, key strategic collaborations and the expansion of our commercial team. Our growth has also been aided by a robust and expanding biologics market. For instance, between 2016 and 2018, 36 monoclonal antibodies were approved by the FDA, representing almost 40% of all approved monoclonal antibodies since the first therapeutic antibody was brought to market in 1986. We have focused our approach on four core areas:

Acquisitions. In June 2014, we entered the filtration market with the acquisition of ATF technology (now XCell ATF) from Refine Technologies LLC. In April 2016, we expanded our Chromatography franchise, adding process development scale pre-packed chromatography columns (now OPUS PD) through our purchase of Atoll GmbH, enabling preclinical to commercial-stage scalability for our OPUS PPC line. In December 2016, we expanded our Filtration portfolio into downstream applications, adding single-use SIUS flat sheet TFF cassettes through our purchase of TangenX Technology Corporation. In August 2017, we further expanded our Filtration franchise through our acquisition of Spectrum Life Sciences LLC, or Spectrum, adding the KrosFlo line of hollow fiber TFF cartridges and systems, tangential flow depth filtration technology, and Pro-Connex single-use tubing sets. With the acquisition of Spectrum, we in-house manufacture hollow fiber filters that can be used in our XCell ATF systems and have increased our direct sales presence in Europe and Asia. In May 2019, we acquired C Technologies, which established a fourth franchise, Process Analytics, which we expect will complement and support our existing Proteins, Filtration and Chromatography franchises.

Internal development. Our internal development efforts have generated a number of innovative new products that we believe are well positioned for growth as customers increasingly adopt single-use and continuous processing products. In 2011, we launched the first of our OPUS pre-packed columns, and have continued to expand the OPUS family with new sizes and features such as a resin recovery port on our largest columns. Early in 2018, we introduced OPUS 80 R, the largest available PPC on the market for use in late-stage clinical or select commercial purification processes. In 2016, we introduced a single-use version of our XCell ATF perfusion device, designed to improve customer convenience and lower barriers to customer adoption. In 2018, we introduced our KONDUiT device to automate concentration and buffer exchange when used with our hollow fiber or flat sheet TFF filtration products. We plan to continue to advance both internal and acquired assets to introduce new products and/or features that can expand applications for our products.

Strategic collaborations. In June 2018, we secured an agreement with Navigo Proteins GmbH for the exclusive co-development of multiple affinity ligands for which Repligen holds commercialization rights. We are manufacturing and have agreed to supply the first of these ligands, NGL-Impact™ A, exclusively to Purolite Life Sciences, who will pair our high-performance ligand with Purolite’s agarose jetting base bead technology used in their Jetted A50 Protein A resin product. We also signed a long term supply agreement with Purolite involving potential additional affinity ligands that may advance from our Navigo collaboration. The Navigo and Purolite agreements are supportive of our strategy to secure and reinforce our Proteins business. Supporting our Filtration franchise, in September 2018, we entered into a collaboration agreement with an industry leader, Sartorius

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Stedim Biotech, or SSB, to integrate our XCell ATF controller technology into SSB's BIOSTAT® STR large-scale, single-use bioreactors, to create novel perfusion-enabled bioreactors.

Commercial expansion. We market our Chromatography and Filtration products globally through a direct commercial organization in the United States and Europe, as well as Asia, where we supplement direct sales with distributor relationships. Since 2014, we have significantly expanded our global commercial organization, to form a 103-person commercial team as of December 31, 2018. This includes 54 people in field positions (direct sales, field applications and field service), and 49 people with internal positions (marketing, product management and customer service). This expansion also includes the team of 26 highly experienced field personnel that we gained in connection with our acquisition of Spectrum in 2017. With the Spectrum acquisition, we greatly expanded our direct sales team in Asia, where we also work effectively with key distributors to serve our expanding customer base. In addition, the C Technologies acquisition has increased our sales capabilities in the U.S., Europe and Asia, with the integration of C Technologies' commercial team (sales, field applications and service) and third-party distributors. Our commercial and R&D teams work to successfully launch new products and applications, as well as build new markets for acquired technologies that increase flexibility and convenience while streamlining biomanufacturing workflow for our customers.

Through acquisitions, internal R&D, strategic partnerships and commercial leverage, we continue to expand the applications for our bioprocessing products and to diversify our end markets.

Many of our products are early in their adoption cycle, and together with the expansion of our commercial organization and strategic acquisitions, have contributed to product revenue growth from \$47.5 million in 2013, to \$193.9 million in 2018. While all product franchises have grown over this period, our diversification strategy has resulted in a significant increase in direct product sales as a percent of total product revenue, from 17% in 2012. By 2018, 72% of total bioprocessing revenue was attributable to direct product sales; 47% from our Filtration franchise, 23% from our Chromatography franchise and a small percentage from other sources including sales of hospital products, which we obtained with our acquisition of Spectrum.

Customers use our products to produce initial quantities of drug for clinical studies, then scale-up to larger volumes as the drug progresses to commercial production following regulatory approval. Detailed specifications for a drug's manufacturing process are included in applications that must be approved by regulators, such as the U.S. Food and Drug Administration, or the FDA, and the European Medicines Agency, throughout the clinical trial process and prior to final commercial approval. As a result, products that become part of the manufacturing specifications of a late-stage clinical or commercial process can be very difficult to displace given the related costs and uncertainties.

The Biologics Manufacturing Process

Manufacturing biologic drugs requires three fundamental steps. First, upstream manufacturing involves the production of the biologic by living cells that are grown in a series of bioreactors (seed bioreactors, scaling up to a production bioreactor) under controlled conditions. Methods of production vary, with the industry standard being fed-batch, where nutrients (cell culture media) are added to a production bioreactor to stimulate cell growth and production of the biologic drug of interest. The contents of the bioreactor then go through a harvest and clarification step. The industry is increasingly adopting the perfusion (or continuous) method of production, which circulates nutrients into the bioreactor, while simultaneously harvesting/clarifying the biologic drug product. Some manufacturers are embracing a hybrid approach combining both fed-batch and perfusion methods. The cells being grown in a bioreactor are engineered to produce the biologic drugs of interest. These tiny cell "factories" are highly sensitive to the conditions under which they grow, including the composition of the cell culture media and the growth factors used to stimulate increased cell growth and protein production, or titre.

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Following the upstream steps, the process moves downstream and the biologic made upstream must be separated and purified, typically through various chromatography and filtration steps. Finally, the purified biologic drug is concentrated, formulated and then packaged (fill-finish) into its final injectable form.

Biologics are generally high value therapies. Given the inherent complexities of the process and the final drug product, we have observed that manufacturers are seeking and investing in innovative technologies that address pressure points in the production process in order to improve yields. Manufacturers are also seeking technologies that reduce costs as the biologic drug moves through clinical stages and into commercial processes by adopting single-use technologies as well as other products that enable increased flexibility and efficiency.

Our Strategy

We are focused on the development, production and commercialization of differentiated, technology-leading solutions or products that address specific pressure points in the biologics manufacturing process and deliver substantial value to our customers. Our products are designed to increase our customers' product yield, and we are committed to supporting our customers with strong customer service and applications expertise.

We intend to build on our recent history of developing market-leading solutions and delivering strong financial performance through the following strategies:

- **Continued innovation.** We plan to capitalize on our internal technological expertise to develop products that address unmet needs in upstream and downstream bioprocessing. We intend to invest further in our core Proteins product lines while developing platform and derivative products to support our Filtration, Chromatography and Process Analytics product lines. We plan to strengthen our existing product lines with complementary products and technologies that are designed to allow us to provide customers with a more efficient manufacturing process on one or more measures including flexibility, convenience, time savings, cost reduction and product yield. With the C Technologies acquisition, we offer customers bioprocess analytics solutions designed to easily integrate with our current franchises, for both upstream and downstream applications.
- **Platforming our products.** A key strategy for accelerating market adoption of our products is delivery of enabling technologies that become the standard, or "platform," technology in markets where we compete. We focus our efforts on winning early-stage technology evaluations through direct interaction with the key biomanufacturing decision makers in process development labs. This strategy is designed to establish early adoption of our enabling technologies at key accounts, with opportunity for customers to scale up as the molecule advances to later stages of development and potential commercialization. We believe this approach can accelerate the implementation of our products as platform products, thereby strengthening our competitive advantage and contributing to long-term growth.
- **Targeted acquisitions.** We intend to continue to selectively pursue acquisitions of innovative technologies and products. We intend to leverage our balance sheet to acquire technologies and products that improve our overall financial performance by improving our competitiveness in filtration, chromatography or process analytics or by moving us into adjacent markets with common commercial call points.
- **Geographical expansion.** We intend to expand our global commercial presence by continuing to selectively build out our global sales, marketing, field applications and services infrastructure.
- **Operational efficiency.** We seek to expand operating margins through capacity utilization and process optimization strategies designed to increase our manufacturing yields. We plan to invest in systems to support our global operations, optimizing resources across our global footprint to maximize productivity.

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Recent Developments

May 2019 Offering

On May 3, 2019, we completed an underwritten public offering, or the May 2019 Offering, in which 3,144,531 shares of our common stock, which includes the underwriters' exercise in full of an option to purchase up to an additional 410,156 shares, were sold to the public at a price to the public of \$64.00 per share. The net proceeds received by Repligen from this offering, net of underwriting discounts and commissions (but before deducting offering expenses payable by us), totaled approximately \$190.2 million.

Acquisition of C Technologies

On May 31, 2019, we consummated our previously announced acquisition of C Technologies. Pursuant to the stock purchase agreement, or the Purchase Agreement, dated April 25, 2019, among Repligen, C Technologies and Craig Harrison, as the sole stockholder of C Technologies, or the Stockholder, we acquired 100% of the outstanding capital stock of C Technologies in exchange for approximately \$195 million in cash, or the Cash Consideration, and 779,221 shares of our common stock. Pursuant to the Purchase Agreement, approximately \$3.4 million of the Cash Consideration was placed into a third party escrow account to satisfy any payments due to us for certain adjustments to the calculation of the working capital of C Technologies and certain indemnification obligations of the Stockholder.

Second Quarter Preliminary Financial Results

We expect our total revenue for the three months ended June 30, 2019 will be between approximately \$70.0 million and \$71.0 million, compared to \$47.7 million in total revenue for the three months ended June 30, 2018. Our fully diluted earnings per share on a GAAP basis for the three months ended June 30, 2019 is expected to be between \$0.12 and \$0.15, compared to \$0.06 for the three months ended June 30, 2018. Our fully diluted non-GAAP adjusted earnings per share for the three months ended June 30, 2019 is expected to be between \$0.30 and \$0.33, compared to \$0.16 for the three months ended June 30, 2018. Adjustments to preliminary GAAP fully diluted earnings per share, reconciling to preliminary adjusted non-GAAP fully diluted earnings per share, include the following estimated adjustments: acquisition and integration costs of \$0.14, intangible amortization of \$0.06, non-cash interest expense of \$0.02, and the tax effect of intangible amortization and integration costs of \$(0.04), each per fully diluted share. See "Summary Consolidated Financial Data—Reconciliation of Non-GAAP Financial Measures."

These financial results are only preliminary estimates and are based on information available to management as of the date of this prospectus supplement, and these expectations could change. See "Risks Related to Our Concurrent Common Stock Offering and Our Common Stock—Our preliminary second quarter financial results represent management's current estimates and are subject to change." Our actual financial results as of and for the three months ended June 30, 2019 are subject to the completion of our financial statements as of and for such period, and are not indicative of future performance. Our independent registered public accountants have not audited, reviewed or performed any procedures with respect to such preliminary estimates and accordingly do not express an opinion or any other form of assurance with respect thereto. Complete quarterly results as of, and for the three months ended June 30, 2019 will be announced during our second quarter financial results earnings conference call and included in our Quarterly Report on Form 10-Q for the three months ended June 30, 2019.

Concurrent Common Stock Offering

Concurrently with this offering of notes, we are offering \$100 million of our common stock (or \$115 million of our common stock if the underwriters in that offering exercise their option to purchase additional shares in

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full) in an underwritten offering pursuant to a separate prospectus supplement, or the Concurrent Common Stock Offering. Assuming an offering price of \$85.00 per share, the last reported sale price of our common stock on the Nasdaq Global Select Market on July 12, 2019, we expect to offer 1,176,470 shares of common stock in the concurrent offering of our common stock. The closing of this offering of notes is not conditioned upon the closing of the Concurrent Common Stock Offering and the closing of the Concurrent Common Stock Offering is not conditioned upon the closing of this offering of notes. This prospectus supplement is not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Common Stock Offering.

Contemporaneous 2016 Notes Transactions

Contemporaneously with the pricing of this offering and the Concurrent Common Stock Offering, or the Offerings, we may enter into privately negotiated exchange transactions with certain holders of the 2016 Notes to exchange a portion of the 2016 Notes for a combination of cash in an amount equal to the principal amount exchanged and accrued and unpaid interest thereon and shares of our common stock in excess thereof. Furthermore, contemporaneously with the closing of the Offerings, we intend to issue a notice of redemption in respect of the remaining 2016 Notes, which we expect would result in the conversion of all or substantially all of the remaining 2016 Notes in accordance with their terms prior to the end of our third quarter of 2019. We intend to settle conversions of the remaining 2016 Notes with cash in an amount equal to the principal amount thereof and shares of our common stock in excess thereof.

Risks Related to Our Business

Our ability to execute our business strategy is subject to a number of risks of which you should be aware before you decide to invest in the notes. In particular, you should consider the following risks, which are discussed more fully in the section entitled “Risk Factors” in this prospectus supplement, in our Annual Report on Form 10-K for the year ended December 31, 2018 and in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, which are incorporated herein by reference:

- Our product revenue may be negatively impacted by a number of factors, including without limitation, competition in the bioprocessing market, our reliance on a limited number of customers, our ability to develop or acquire additional bioprocessing products in the future, our ability to manufacture our bioprocessing products sufficiently and timely, and our ability to effectively penetrate the bioprocessing products market.
- We may not be able to achieve sufficient market acceptance for our bioprocessing products, and our results of operations and competitive position could suffer.
- If our products do not perform as expected or the reliability of the technology on which our products are based is questioned, we could experience lost revenue, delayed or reduced market acceptance, increased cost and damage to our reputation.

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- If we are unable to manufacture our products in sufficient quantities and in a timely manner, our operating results will be harmed, our ability to generate revenue could be diminished and our gross margin may be negatively impacted.
- Acquisitions we have completed, including the C Technologies acquisition, or may in the future complete expose us to risks that could adversely affect our business, and we may not achieve the anticipated benefits of acquisitions of businesses or technologies.
- Our results of operations could be negatively affected by potential fluctuations in foreign currency exchange rates.
- If we are unable to hire and retain skilled personnel, including sales and marketing personnel, then we will have trouble developing and marketing our products.
- If we are unable to obtain or maintain our intellectual property rights related to our products, we may not be able to compete effectively or succeed commercially.

Company Information

We were incorporated in May 1981 under the laws of the State of Delaware. Our mailing address and executive offices are located at 41 Seyon Street, Waltham, MA 02453 and our telephone number at that address is (781) 250-0111. We maintain an Internet website at the following address: www.repligen.com. The information on, or that can be accessed through, our website does not constitute part of this prospectus supplement, and the reference to our website address is included in this prospectus supplement as an inactive textual reference only. You should not rely on any such information in making the decision whether to invest in the notes. Our common stock trades on the Nasdaq Global Select Market under the symbol "RGEN."

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THE OFFERING

The summary below describes the principal terms of the notes. This summary does not contain all of the information that is important relating to an investment in the notes and any shares of our common stock issuable upon conversion thereof. Certain of the terms and conditions described below are subject to important limitations and exceptions. The “Description of Debt Securities” section of the accompanying prospectus, as supplemented by the “Description of Notes” section of this prospectus supplement, contains a more detailed description of the terms and conditions of the notes. As used in this section, “we,” “our” and “us” refer only to Repligen Corporation and not to any of its subsidiaries.

Issuer	Repligen Corporation, a Delaware corporation.
Securities	\$250,000,000 principal amount of % Convertible Senior Notes due 2024 (plus an over-allotment option to purchase up to an additional \$37,500,000 principal amount of notes). This prospectus supplement and the accompanying prospectus also register the offering and sale of the shares of common stock issuable upon conversion of the notes.
Maturity	July 15, 2024, unless earlier converted or repurchased.
Interest	% per year. Interest will accrue from July , 2019 and will be payable semiannually in arrears on January 15 and July 15 of each year, beginning on January 15, 2020. We will pay additional interest, if any, at our election as the sole remedy relating to the failure to comply with our reporting obligations as described under “Description of Notes—Events of Default.”
Conversion Rights	Holder may convert all or any portion of their notes, in multiples of \$1,000 principal amount, at their option at any time prior to the close of business on the business day immediately preceding April 15, 2024 only under the following circumstances: <ul style="list-style-type: none">• during any calendar quarter commencing after the calendar quarter ending on September 30, 2019 (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 the period of 30 consecutive trading days ending on, and including, 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;• during the five business day period after any five consecutive trading day period, or the measurement period, in which the “trading

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price” (as defined under “Description of Notes—Conversion Rights—Conversion upon Satisfaction of Trading Price Condition”) per \$1,000 principal amount of notes, as determined following a request by a holder of notes in accordance with the procedures described herein, 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; or

- upon the occurrence of specified corporate events described under “Description of Notes—Conversion Rights—Conversion upon Specified Corporate Events.”

On or after April 15, 2024 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their notes, in multiples of \$1,000 principal amount, at the option of the holder regardless of the foregoing conditions.

The conversion rate for the notes will initially be _____ shares of common stock per \$1,000 principal amount of notes (equivalent to an initial conversion price of approximately \$ _____ per share of common stock), subject to adjustment as described in this prospectus supplement.

Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election. If we satisfy our conversion obligation solely in cash or through payment and delivery, as the case may be, of a combination of cash and shares of our common stock, the amount of cash and shares of common stock, if any, due upon conversion will be based on a daily conversion value (as described herein) calculated on a proportionate basis for each trading day in a 40 trading day observation period (as described herein). See “Description of Notes—Conversion Rights—Settlement upon Conversion.”

In addition, following certain specified corporate events that occur prior to the maturity date, we will, in certain circumstances, increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event, as described under “Description of Notes—Conversion Rights—

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	<p>Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change.”</p> <p>You will not receive any additional cash payment or additional shares representing accrued and unpaid interest, if any, upon conversion of a note, except in limited circumstances. Instead, interest will be deemed to be paid by the cash, shares of our common stock or a combination of cash and shares of our common stock paid or delivered, as the case may be, to you upon conversion of a note.</p>
No Redemption	<p>The notes will not be subject to redemption.</p>
Fundamental Change	<p>If we undergo a “fundamental change” (as defined in this prospectus supplement under “Description of Notes—Fundamental Change Permits Holders to Require Us to Repurchase Notes”), subject to certain conditions, holders may require us to repurchase for cash all or part of their notes in principal amounts of \$1,000 or an integral multiple thereof. The fundamental change repurchase price will be equal to 100% of the principal amount of the notes to be repurchased, <i>plus</i> accrued and unpaid interest to, but excluding, the fundamental change repurchase date. See “Description of Notes—Fundamental Change Permits Holders to Require Us to Repurchase Notes.”</p>
Ranking	<p>The notes will be our senior unsecured obligations and will rank:</p> <ul style="list-style-type: none">• senior in right of payment to all of our indebtedness that is expressly subordinated in right of payment to the notes;• equal in right of payment with all of our unsecured indebtedness that is not so subordinated;• effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and• structurally junior to all indebtedness and other liabilities of our current or future subsidiaries (including trade payables). <p>As of March 31, 2019, we and our subsidiaries had \$172.9 million of indebtedness, which includes \$115.0 million principal amount of our 2.125% Convertible Senior Notes due 2021, or the 2016 Notes, and our subsidiaries had no other liabilities</p>

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(excluding trade payables, intercompany obligations and liabilities of a type not required to be reflected on a balance sheet of such subsidiaries in accordance with GAAP). After giving effect to the issuance of the notes (assuming no exercise of the underwriters' over-allotment option to purchase additional notes), the aggregate principal amount of our consolidated indebtedness as of March 31, 2019 would have been \$365.0 million, which includes approximately \$115.0 million principal amount of the 2016 Notes in respect of which we intend to issue a notice of redemption contemporaneously with the closing of this offering. The indenture governing the notes will not limit the amount of debt that we or our subsidiaries may incur.

Use of Proceeds

We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$242.6 million (or approximately \$279.1 million if the underwriters exercise their over-allotment option to purchase additional notes in full).

In addition, concurrently with this offering of notes, we are offering \$100 million of our common stock (or \$115 million of our common stock if the underwriters of such offering exercise in full their option to purchase additional shares of common stock) in an underwritten offering pursuant to a separate prospectus supplement, or the Concurrent Common Stock Offering. We estimate that the net proceeds to us from the Concurrent Common Stock Offering, after deducting underwriting discounts and commissions and estimated expenses payable by us, will be approximately \$94.5 million (or approximately \$108.7 million if the underwriters in the Concurrent Convertible Notes Offering exercise in full their option to purchase additional shares of common stock).

We intend to use the net proceeds from this offering and, if completed, the Concurrent Common Stock Offering for working capital and other general corporate purposes, including up to approximately \$115.0 million to finance the exchange and redemption, or a portion of the consideration due in connection with a conversion or exchange of, the 2016 Notes. Net proceeds from the Offerings may also be used to fund possible acquisitions of, or

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	investments in, complementary businesses, products, services and technologies. We have not entered into any agreements or commitments with respect to any acquisitions or investments at this time. See “Use of Proceeds.”
Risk Factors	Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-23 of this prospectus supplement, in our Annual Report on Form 10-K for the year ended December 31, 2018, and in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, which are incorporated by reference herein, for a discussion of factors that you should read and consider before investing in our securities.
Book-entry Form	The notes will be issued in book-entry form and will be represented by permanent global certificates deposited with, or on behalf of, The Depository Trust Company, or DTC, and registered in the name of a nominee of DTC. Beneficial interests in any of the notes will be shown on, and transfers will be effected only through, records maintained by DTC or its nominee and any such interest may not be exchanged for certificated securities, except in limited circumstances.
Absence of a Public Market for the Notes	The notes are new securities and there is currently no established market for the notes. Accordingly, we cannot assure you as to the development or liquidity of any market for the notes. The underwriters have advised us that they currently intend to make a market in the notes. However, they are not obligated to do so, and they may discontinue any market making with respect to the notes without notice. We do not intend to apply for a listing of the notes on any securities exchange or any automated dealer quotation system.
U.S. Federal Income Tax Considerations	For a discussion of material U.S. federal income tax considerations applicable to the purchase, ownership and disposition of the notes and any common stock received on conversion thereof, see “Material U.S. Federal Income Tax Considerations.”
Nasdaq Global Select Market Symbol for Our Common Stock	Our common stock is listed on the Nasdaq Global Select Market under the symbol “RGEN.”
Trustee, Paying Agent and Conversion Agent	Wilmington Trust, National Association

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Contemporaneous 2016 Notes Transactions

Contemporaneously with the pricing of the Offerings, we may enter into privately negotiated exchange transactions with certain holders of the 2016 Notes to exchange a portion of the 2016 Notes for a combination of cash in an amount equal to the principal amount exchanged and accrued and unpaid interest thereon and shares of our common stock in excess thereof. Furthermore, contemporaneously with the closing of the Offerings, we intend to issue a notice of redemption in respect of the remaining 2016 Notes, which we expect would result in the conversion of all or substantially all of the remaining 2016 Notes in accordance with their terms prior to the end of our third quarter of 2019. We intend to settle conversions of the remaining 2016 Notes with cash in an amount equal to the principal amount thereof and shares of our common stock in excess thereof.

We expect that holders of 2016 Notes that exchange their 2016 Notes in negotiated transactions with us, if any, may enter into or unwind various derivatives with respect to our common stock (including entering into derivatives with an affiliate of one of the underwriters in this offering) and/or purchase or sell shares of our common stock in the market. In addition, we expect that certain purchasers of the notes offered hereby may establish a short position with respect to our common stock by short selling our common stock or by entering into short derivative positions with respect to our common stock (including entering into derivatives with an affiliate of one of the underwriters in this offering), in each case, in connection with the this offering. Any of the above market activities by holders of the 2016 Notes or purchasers of the notes offered hereby, as applicable, could increase (or reduce the size of any decrease in) or decrease (or reduce the size of any increase in) the market price of our common stock or the notes offered hereby at that time and we cannot predict the magnitude of such market activity or the overall effect it will have on the price of the notes offered hereby or our common stock.

Concurrent Common Stock Offering

Concurrently with this offering of notes, we are offering \$100 million of our common stock (or \$115 million of our common stock if the underwriters of such offering exercise in full their option to purchase additional shares of common stock) in the

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Concurrent Common Stock Offering, pursuant to a separate prospectus supplement. We estimate that the net proceeds to us from the Concurrent Common Stock Offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$94.5 million (or approximately \$108.7 million if the underwriters in that offering exercise in full their option to purchase additional shares of common stock).

The offering of the notes pursuant to this prospectus supplement is not contingent upon the completion of the Concurrent Common Stock Offering and the Concurrent Common Stock Offering is not contingent upon the completion of this offering of the notes. We cannot assure you that either or both of the Offerings will be completed on the terms described above or at all.

Unless otherwise indicated, all information in this prospectus supplement assumes:

- that the underwriters do not exercise their over-allotment option to purchase up to \$37,500,000 principal amount of additional notes;
- that the underwriters in the Concurrent Common Stock Offering, if such offering is completed, do not exercise their option to purchase up to \$15,000,000 additional shares of our common stock; and
- no options, restricted stock units, warrants, or shares of common stock were issued or converted after March 31, 2019.

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SUMMARY CONSOLIDATED FINANCIAL DATA

The following table sets forth summary consolidated financial data and certain other non-GAAP financial operating data of the Company. The summary consolidated financial data as of and for the years ended December 31, 2018 and December 31, 2017 are derived from our audited consolidated financial statements, which are incorporated by reference herein. The summary consolidated financial data as of March 31, 2019 and for the three months ended March 31, 2019 and 2018 are derived from our unaudited condensed consolidated financial statements, which are incorporated by reference herein. These unaudited condensed consolidated financial statements have been prepared on a basis consistent with our audited consolidated financial statements. The unaudited consolidated financial statements include all adjustments, consisting of normal recurring adjustments, that we consider necessary for a fair presentation of the financial position and the results of operations for these periods. Our historical results are not necessarily indicative of the results that may be expected in the future. The following summary consolidated financial data should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and the related notes thereto, all of which are incorporated by reference herein.

Consolidated Statements of Operations Data:	For the Three Months Ended March 31,		For the Years Ended December 31,	
	2019	2018	2018 ⁽¹⁾	2017 ⁽²⁾
	(Amounts in thousands, except per share data)			
Revenue:				
Products	\$ 60,612	\$ 44,799	\$ 193,891	\$ 141,089
Royalty and other revenue	22	31	141	147
Total revenue	<u>60,634</u>	<u>44,830</u>	<u>194,032</u>	<u>141,236</u>
Operating costs and expenses:				
Cost of product revenue	26,845	19,668	86,531	67,050
Research and development	3,620	3,288	15,821	8,672
Selling, general and administrative	18,998	15,898	65,692	51,509
Total operating costs and expenses	<u>49,463</u>	<u>38,854</u>	<u>168,044</u>	<u>127,231</u>
Income from operations	11,171	5,976	25,988	14,005
Other expenses, net	(655)	(1,400)	(4,552)	(6,757)
Income before income taxes	10,516	4,576	21,436	7,248
Income tax provision (benefit)	2,463	1,128	4,819	(21,105)
Net income	<u>\$ 8,053</u>	<u>\$ 3,448</u>	<u>\$ 16,617</u>	<u>\$ 28,353</u>
Earnings per share:				
Basic	<u>\$ 0.18</u>	<u>\$ 0.08</u>	<u>\$ 0.38</u>	<u>\$ 0.74</u>
Diluted	<u>\$ 0.17</u>	<u>\$ 0.08</u>	<u>\$ 0.37</u>	<u>\$ 0.72</u>
Weighted average common shares outstanding:				
Basic	<u>43,968</u>	<u>43,621</u>	<u>43,767</u>	<u>38,234</u>
Diluted	<u>46,279</u>	<u>44,327</u>	<u>45,471</u>	<u>39,150</u>
Other Operating Data⁽³⁾				
Non-GAAP Adjusted Income from Operations	<u>\$ 15,581</u>	<u>\$ 9,295</u>	<u>\$ 39,434</u>	<u>\$ 31,555</u>
Non-GAAP Adjusted Net Income	<u>\$ 13,053</u>	<u>\$ 7,532</u>	<u>\$ 33,332</u>	<u>\$ 27,176</u>
Non-GAAP Adjusted EBITDA	<u>\$ 17,541</u>	<u>\$ 10,650</u>	<u>\$ 44,956</u>	<u>\$ 35,105</u>
Non-GAAP Adjusted Earnings Per Share (Diluted)	<u>\$ 0.28</u>	<u>\$ 0.17</u>	<u>\$ 0.73</u>	<u>\$ 0.69</u>

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Balance Sheet Data:	As of	As of December 31,	
	March 31, 2019	2018	2017
	(Amounts in thousands)		
Cash and cash equivalents	\$ 196,135	\$193,822	\$173,759
Working capital	153,799	145,897	217,571
Total assets	797,921	774,621	743,519
Long-term obligations	42,618 ⁽⁴⁾	29,211	126,760
Accumulated deficit	(7,515)	(15,568)	(31,508)
Total stockholders' equity	625,025	615,568	591,548

- (1) Includes the full year impact of the acquisition of Spectrum Lifesciences, LLC on August 1, 2017.
- (2) Includes the full year impact of the acquisition of Atoll GmbH on April 1, 2016 and the acquisition of TangenX Corporation on December 14, 2016.
- (3) For a discussion of, and definitions for, Non-GAAP Adjusted Income From Operations, Non-GAAP Adjusted Net Income, and Non-GAAP Adjusted EBITDA and Non-GAAP Adjusted Earnings Per Share (Diluted), see "Presentation of Non-GAAP Financial Information." See "Reconciliation of Non-GAAP Financial Measures" for GAAP reconciliation of these measures.
- (4) Includes \$17.1 million of long-term lease liability presented in accordance with Accounting Standards Codification 842, "Leases," which the Company adopted on January 1, 2019.

Reconciliation of Non-GAAP Financial Measures

This prospectus supplement contains certain financial measures that have been prepared other than in accordance with GAAP. These measures include Non-GAAP Adjusted Income From Operations, Non-GAAP Adjusted Net Income, Non-GAAP Adjusted EBITDA and Non-GAAP Adjusted Earnings Per Share (Diluted). We include this financial information because we believe these measures provide a more accurate comparison of our financial results between periods and more accurately reflect how management reviews its financial results. We excluded the impact of certain acquisition related items because we believe that the resulting charges do not accurately reflect the performance of our ongoing operations for the period in which such charges are incurred. The following tables present a reconciliation of such financial measures to the most comparable measures calculated in accordance with GAAP.

Reconciliation of GAAP Income from Operations to Non-GAAP Adjusted Income from Operations

	For the Three Months Ended March 31,		For the Years Ended December 31,	
	2019	2018	2018	2017
	(Amounts in thousands)			
GAAP income from operations	\$ 11,171	\$ 5,976	\$ 25,988	\$ 14,005
Non-GAAP adjustments to income from operations:				
Acquisition and integration costs	1,799	655	2,928	7,519
Inventory step-up charges	—	—	—	3,816
Intangible amortization	2,611	2,664	10,518	6,215
Non-GAAP adjusted income from operations	<u>\$ 15,581</u>	<u>\$ 9,295</u>	<u>\$ 39,434</u>	<u>\$ 31,555</u>

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Reconciliation of GAAP Income to Non-GAAP Adjusted Net Income

	For the Three Months Ended March 31,		For the Years Ended December 31,	
	2019	2018	2018	2017
GAAP net income	\$ 8,053	\$ 3,448	\$16,617	\$ 28,353
Non-GAAP adjustments to net income:				
Acquisition and integration costs	1,799	655	2,928	7,519
Inventory step-up charges	—	—	—	3,816
Intangible amortization	2,611	2,664	10,518	6,215
Non-cash interest expense	1,107	1,036	4,248	3,977
Tax effect of intangible amortization and acquisition costs	(517)	(271)	(979)	(882)
Release of valuation allowance on deferred tax assets	—	—	—	(12,236)
Net impact of tax reform legislation	—	—	—	(9,586)
Non-GAAP adjusted net income	<u>\$ 13,053</u>	<u>\$ 7,532</u>	<u>\$33,332</u>	<u>\$ 27,176</u>

Reconciliation of GAAP Net Income to Non-GAAP Adjusted EBITDA

	For the Three Months Ended March 31,		For the Years Ended December 31,	
	2019	2018	2018	2017
GAAP net income	\$ 8,053	\$ 3,448	\$16,617	\$ 28,353
Non-GAAP EBITDA adjustments to net income:				
Investment income	(713)	(181)	(1,895)	(371)
Interest expense	1,726	1,652	6,709	6,441
Tax provision	2,463	1,128	4,819	(21,105)
Depreciation	1,575	1,284	5,213	4,237
Amortization	2,638	2,664	10,565	6,215
EBITDA	15,742	9,995	42,028	23,770
Other non-GAAP adjustments:				
Acquisition and integration costs	1,799	655	2,928	7,519
Inventory step-up charges	—	—	—	3,816
Adjusted EBITDA	<u>\$ 17,541</u>	<u>\$ 10,650</u>	<u>\$44,956</u>	<u>\$ 35,105</u>

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Reconciliation of GAAP Net Income Per Share to Non-GAAP Adjusted Earnings Per Share (Diluted)

	For the Three Months Ended March 31,		For the Years Ended December 31,	
	2019	2018	2018	2017
GAAP net income per share	\$ 0.17	\$ 0.08	\$ 0.37	\$ 0.72
Non-GAAP adjustments to net income:				
Acquisition and integration costs	0.04	0.01	0.06	0.19
Inventory step-up charges	—	—	—	0.10
Intangible amortization	0.06	0.06	0.23	0.16
Non-cash interest expense	0.02	0.02	0.09	0.10
Tax effect of intangible amortization and acquisition costs	(0.01)	(0.01)	(0.02)	(0.02)
Release of valuation allowance on deferred tax assets	—	—	—	(0.31)
Net impact of tax reform legislation	—	—	—	(0.24)
Non-GAAP adjusted earnings per share (diluted)	<u>\$ 0.28</u>	<u>\$ 0.17</u>	<u>\$ 0.73</u>	<u>\$ 0.69</u>

Note that earnings per share amounts may not add due to rounding.

RISK FACTORS

Investing in our notes and our common stock potentially issuable upon the conversion of our notes involves a high degree of risk. In addition to the other information contained in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference herein and therein and any free writing prospectus we authorize for use in connection with this offering, you should carefully consider the risks discussed below and under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on March 1, 2019, and in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, filed with the SEC on May 9, 2019, before making a decision about investing in our securities. These risks and uncertainties may not be the only ones we face. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. If any of these risks occur, our business, financial condition and operating results could be harmed, the trading price of the notes and our common stock could decline and you could lose part or all of your investment. The risks discussed below also include forward-looking statements and our actual results may differ substantially from those discussed in these forward-looking statements. See "Special Note Regarding Forward-Looking Statements."

Risks Related to this Offering and the Notes

The notes will be effectively subordinated to our secured debt and any liabilities of our subsidiaries.

The notes will rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the notes; equal in right of payment to any of our liabilities that are not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities of our current or future subsidiaries (including trade payables). In the event of our bankruptcy, liquidation, reorganization or other winding up, our assets that secure debt ranking senior in right of payment to the notes will be available to pay obligations on the notes only after the secured debt has been repaid in full from these assets. There may not be sufficient assets remaining to pay amounts due on any or all of the notes then outstanding. The indenture governing the notes will not prohibit us from incurring additional senior debt or secured debt, nor will it prohibit any of our subsidiaries from incurring liabilities or issuing preferred stock.

As of March 31, 2019, we and our subsidiaries had \$172.9 million of indebtedness, which includes \$115.0 million principal amount of our 2016 Notes, and our subsidiaries had no other liabilities (excluding trade payables, intercompany obligations and liabilities of a type not required to be reflected on a balance sheet of such subsidiaries in accordance with GAAP). After giving effect to the issuance of the notes (assuming no exercise of the underwriters' over-allotment option to purchase additional notes), the aggregate principal amount of our consolidated indebtedness as of March 31, 2019 would have been \$365.0 million, which includes approximately \$115.0 million principal amount of the 2016 Notes in respect of which we intend to issue a notice of redemption contemporaneously with the closing of this offering.

The notes are our obligations only.

The notes are our obligations exclusively and are not guaranteed by any of our subsidiaries. Our ability to service our debt, including the notes, may depend on the results of operations of our subsidiaries and upon the ability of such subsidiaries to provide us with cash, whether in the form of dividends, loans or otherwise, to pay amounts due on our obligations, including the notes. Our subsidiaries are separate and distinct legal entities and have no obligation, contingent or otherwise, to make payments on the notes or to make any funds available for that purpose. In addition, dividends, loans or other distributions to us from such subsidiaries may be subject to contractual and other restrictions and are subject to other business considerations, including that such distributions may be subject to United States and foreign tax liabilities. Our right to receive any assets of any of our subsidiaries upon such subsidiary's bankruptcy, liquidation or reorganization, and, therefore, the right of the

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holders of notes to participate in those assets, will be subject to prior claims of creditors of the subsidiary, including trade creditors, and such subsidiary may not have sufficient assets remaining to make any payments to us as a shareholder or otherwise. We advise holders of notes that there may not be sufficient assets remaining to pay amounts due on any or all the notes then outstanding.

Servicing our debt will require a significant amount of cash, and we may not have sufficient cash flow from our business to make payments on our debt.

Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness, including the notes, depends on our future performance, which is subject to economic, financial, competitive and other factors that may be beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional debt financing or equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations, including the notes. In addition, any of our future debt agreements may contain restrictive covenants that may prohibit us from adopting any of these alternatives. Our failure to comply with these covenants could result in an event of default which, if not cured or waived, could result in the acceleration of our debt.

Recent and future regulatory actions and other events may adversely affect the trading price and liquidity of the notes.

We expect that many investors in, and potential purchasers of, the notes will employ, or seek to employ, a convertible arbitrage strategy with respect to the notes. Investors would typically implement such a strategy by selling short the common stock underlying the notes and dynamically adjusting their short position while continuing to hold the notes. Investors may also implement this type of strategy by entering into swaps on our common stock in lieu of or in addition to short selling the common stock.

The SEC and other regulatory and self-regulatory authorities have implemented various rules and taken certain actions, and may in the future adopt additional rules and take other actions, that may impact those engaging in short selling activity involving equity securities (including our common stock) and securities convertible or exchangeable for equity securities (including the notes). Such rules and actions include Rule 201 of SEC Regulation SHO, the adoption by the Financial Industry Regulatory Authority, Inc. and the national securities exchanges of a “Limit Up-Limit Down” program, the imposition of market-wide circuit breakers that halt trading of securities for certain periods following specific market declines, and the implementation of certain regulatory reforms required by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Any governmental or regulatory action that restricts the ability of investors in, or potential purchasers of, the notes to effect short sales of our common stock, borrow our common stock or enter into swaps on our common stock could adversely affect the trading price and the liquidity of the notes.

Hedging or arbitrage trading or volatility in the market price and trading volume of our common stock could adversely impact the trading price of the notes.

We expect that the trading price of the notes will be significantly affected by the market price of our common stock. The stock market in recent years has experienced significant price and volume fluctuations that have often been unrelated to the operating performance of companies. The market price of our common stock could fluctuate significantly for many reasons, including in response to the risks described in this section, elsewhere in this prospectus supplement or the documents we have incorporated by reference in this prospectus supplement or for reasons unrelated to our operations, such as reports by industry analysts, investor perceptions or negative announcements by our customers, competitors or suppliers regarding their own performance, as well

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as industry conditions and general financial, economic and political instability. A decrease in the market price of our common stock would likely adversely impact the trading price of the notes. The market price of our common stock could also be affected by possible sales of our common stock by investors who view the notes as a more attractive means of equity participation in us and by hedging or arbitrage trading activity that we expect to develop involving our common stock. This hedging or arbitrage trading activity could, in turn, affect the trading price of the notes.

Any exchanges or conversions of the 2016 Notes, and related transactions by holders of the 2016 Notes or purchasers of the notes offered hereby, may affect the value of the notes and our common stock.

Contemporaneously with the pricing of the Offerings, we may enter into privately negotiated exchange transactions with certain holders of the 2016 Notes to exchange a portion of the 2016 Notes for a combination of cash in an amount equal to the principal amount exchanged and accrued and unpaid interest thereon and shares of our common stock in excess thereof. Furthermore, contemporaneously with the closing of the Offerings, we intend to issue a notice of redemption in respect of the remaining 2016 Notes, which we expect would result in the conversion of all or substantially all of the remaining 2016 Notes in accordance with their terms prior to the end of our third quarter of 2019. We intend to settle conversions of the remaining 2016 Notes with cash in an amount equal to the principal amount thereof and shares of our common stock in excess thereof.

We expect that holders of 2016 Notes that exchange their 2016 Notes in negotiated transactions with us, if any, may enter into or unwind various derivatives with respect to our common stock (including entering into derivatives with an affiliate of one of the underwriters in this offering) and/or purchase or sell shares of our common stock in the market. In addition, we expect that certain purchasers of the notes offered hereby may establish a short position with respect to our common stock by short selling our common stock or by entering into short derivative positions with respect to our common stock (including entering into derivatives with an affiliate of one of the underwriters in this offering), in each case, in connection with the this offering. Any of the above market activities by holders of the 2016 Notes or purchasers of the notes offered hereby, as applicable, could increase (or reduce the size of any decrease in) or decrease (or reduce the size of any increase in) the market price of our common stock or the notes offered hereby at that time and we cannot predict the magnitude of such market activity or the overall effect it will have on the price of the notes offered hereby or our common stock.

We may still incur substantially more debt or take other actions which would intensify the risks discussed above.

We and our subsidiaries may be able to incur substantial additional debt in the future subject to the restrictions contained in our future debt instruments, if any, some of which may be secured debt and/or structurally senior debt. We and our subsidiaries will not be restricted under the terms of the indenture governing the notes from incurring additional debt, including securing existing or future debt, recapitalizing our debt, repurchasing our stock, pledging our assets, making investments, paying dividends, guaranteeing debt, recapitalizing our debt or taking a number of other actions that are not limited by the terms of the indenture governing the notes that could have the effect of diminishing our ability to make payments on the notes when due.

We may not have the ability to raise the funds necessary to make periodic interest payments, pay the principal amount at maturity, settle conversions of the notes in cash (in whole or in part) or to repurchase the notes upon a fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion of the notes or to repurchase the notes.

Holders of the notes will have the right to require us to repurchase their notes upon the occurrence of a fundamental change at a fundamental change repurchase price equal to 100% of the principal amount of the notes to be repurchased, *plus* accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase

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date, as described under “Description of Notes—Fundamental Change Permits Holders to Require Us to Repurchase Notes.” In addition, upon conversion of the notes, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the notes being converted as described under “Description of Notes—Conversion Rights—Settlement upon Conversion.” Moreover, we will be required to make periodic interest payments in cash and will be required to repay the notes in cash at their maturity unless earlier converted or repurchased. However, we may not have enough available cash or be able to obtain financing at the time we are required to repurchase any notes surrendered in connection with a fundamental change, settle any conversions of the notes, make periodic interest payments or repay the notes at their maturity.

In addition, our ability to repurchase the notes or to pay cash upon conversions of the notes or at maturity may be limited by law, by regulatory authority or by agreements governing our existing or future indebtedness. Our failure to repurchase notes at a time when the repurchase is required by the indenture governing the notes or to pay any cash payable on future conversions of the notes or at maturity as required by the indenture would constitute a default under the indenture. A default under the indenture or upon a fundamental change itself could also lead to a default under agreements governing our existing or future indebtedness, including the indenture governing the 2016 Notes. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the notes or make cash payments upon conversions thereof.

The conditional conversion feature of the notes, if triggered, may adversely affect our financial condition and operating results.

In the event the conditional conversion feature of the notes is triggered, holders of notes will be entitled to convert the notes at any time during specified periods at their option. At all times on or after April 15, 2024 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders of the notes will be entitled to convert the notes. See “Description of Notes—Conversion Rights.” If one or more holders elect to convert their notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

The accounting method for convertible debt securities that may be settled in cash, such as the notes or the 2016 Notes, could have a material effect on our reported financial results.

Under Financial Accounting Standards Board Accounting Standards Codification 470-20, Debt with Conversion and Other Options, which we refer to as ASC 470-20, an entity must separately account for the liability and equity components of convertible debt instruments (such as the notes and the 2016 Notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer’s economic interest cost. ASC 470-20 requires the value of the conversion option of the notes and the 2016 Notes, representing the equity component, to be recorded as additional paid-in capital within stockholders’ equity in our consolidated balance sheet and as a discount to the notes and the 2016 Notes, which reduces their initial carrying value. The carrying value of the notes and the 2016 Notes, net of the discount recorded, will be accreted up to the principal amount of the notes from the issuance date until maturity, which will result in non-cash charges to interest expense in our consolidated statement of operations. Accordingly, we will report lower net income or higher net loss in our financial results because ASC 470-20 requires interest to include both the current period’s accretion of the debt discount and the instrument’s coupon interest, which could adversely affect our reported or future financial results, the trading price of our common stock and the trading price of the notes.

In addition, under certain circumstances, convertible debt instruments (such as the notes and the 2016 Notes) that may be settled entirely or partly in cash are currently accounted for utilizing the treasury stock

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method, the effect of which is that the shares issuable upon conversion of the notes and the 2016 Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the notes or the 2016 Notes exceeds their principal amount, and the effect of the conversion on diluted earnings per share is not antidilutive, and the effect of the conversion on diluted earnings per share is not antidilutive. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued. We cannot be sure that the accounting standards in the future will continue to permit the use of the treasury stock method. If we are unable to use the treasury stock method in accounting for the shares issuable upon conversion of the notes or the 2016 Notes, then our diluted earnings per share would be adversely affected.

Future sales of our common stock, including sales made pursuant to the Concurrent Common Stock Offering, or equity-linked securities could lower the market price for our common stock and adversely impact the trading price of the notes.

In the future, we may sell additional shares of our common stock, including pursuant to our Concurrent Common Stock Offering, or equity-linked securities to raise capital or in connection with strategic transactions or partnerships. In addition, a substantial number of shares of our common stock is reserved for issuance upon the exercise of stock options, the vesting of restricted stock units and upon conversion of the notes and the 2016 Notes. We cannot predict the size of future issuances or the effect, if any, that they may have on the market price for our common stock or the trading price of the notes. The issuance and sale of substantial amounts of common stock or equity-linked securities, or the perception that such issuances and sales may occur, could adversely affect the market price of our common stock and the trading price of the notes and impair our ability to raise capital through the sale of additional equity securities.

Holders of notes will not be entitled to any rights with respect to our common stock, but they will be subject to all changes made with respect to them to the extent we settle our conversion obligation, in whole or in part, with shares of our common stock.

Holders of notes will not be entitled to any rights with respect to our common stock (including, without limitation, voting rights, rights to receive any dividends or other distributions on our common stock or rights pursuant to our shareholder rights plan) prior to the conversion date relating to such notes (if we have elected to settle the relevant conversion by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share)) or the last trading day of the relevant observation period (if we elect to pay and deliver, as the case may be, a combination of cash and shares of our common stock in respect of the relevant conversion), but holders of notes will be subject to all changes affecting our common stock. For example, if we elect to settle any portion of our conversion obligation in shares of our common stock, and an amendment is proposed to our certificate of incorporation or bylaws requiring stockholder approval and the record date for determining the stockholders of record entitled to vote on the amendment occurs prior to the conversion date related to a holder's conversion of its notes (if we have elected to settle the relevant conversion by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share)) or the last trading day of the relevant observation period (if we elect to pay and deliver, as the case may be, a combination of cash and shares of our common stock in respect of the relevant conversion), such holder will not be entitled to vote on the amendment, although such holder will nevertheless be subject to any changes affecting our common stock.

The conditional conversion feature of the notes could result in your receiving less than the value of our common stock into which the notes would otherwise be convertible.

Prior to the close of business on the business day immediately preceding April 15, 2024, you may convert your notes only if specified conditions are met. If the specific conditions for conversion are not met, you will not be able to convert your notes prior to that date, and you may not be able to receive (through sale or otherwise) the value of the cash, common stock or a combination of cash and common stock, as applicable, into which the notes would otherwise be convertible.

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Upon conversion of the notes, you may receive less valuable consideration than expected because the value of our common stock may decline after you exercise your conversion right but before we settle our conversion obligation.

Under the notes, a converting holder will be exposed to fluctuations in the value of our common stock during the period from the date such holder surrenders notes for conversion until the date we settle our conversion obligation.

Upon conversion of the notes, we have the option to pay or deliver, as the case may be, cash, shares of our common stock, or a combination of cash and shares of our common stock. If we elect to satisfy our conversion obligation in cash or a combination of cash and shares of our common stock, the amount of consideration that you will receive upon conversion of your notes will be determined by reference to the volume-weighted average price of our common stock for each trading day in an 40 trading day observation period. As described under “Description of Notes—Conversion Rights—Settlement upon Conversion”, this period would be (i) if the relevant conversion date occurs prior to April 15, 2024, the 40 consecutive trading day period beginning on, and including, the second trading day immediately succeeding such conversion date; and (ii) if the relevant conversion date occurs on or after April 15, 2024, the 40 consecutive trading days beginning on, and including, the 41st scheduled trading day immediately preceding the maturity date.

Accordingly, if the price of our common stock decreases during this period, the amount and/or value of consideration you receive will be adversely affected. In addition, if the market price of our common stock at the end of such period is below the average volume-weighted average price of our common stock during such period, the value of any shares of our common stock that you will receive in satisfaction of our conversion obligation will be less than the value used to determine the number of shares that you will receive.

If we elect to satisfy our conversion obligation solely in shares of our common stock upon conversion of the notes, we will be required to deliver the shares of our common stock, together with cash for any fractional share, on the second business day following the relevant conversion date. Accordingly, if the price of our common stock decreases during this period, the value of the shares that you receive will be adversely affected and would be less than the conversion value of the notes on the conversion date.

The notes are not protected by restrictive covenants.

The indenture governing the notes will not contain any financial or operating covenants or restrictions on the payments of dividends, the incurrence of indebtedness or the issuance or repurchase of securities by us or any of our subsidiaries. The indenture will not contain any covenants or other provisions to afford protection to holders of the notes in the event of a fundamental change or other corporate transaction involving us except to the extent described under “Description of Notes—Fundamental Change Permits Holders to Require Us to Repurchase Notes,” “Description of Notes—Conversion Rights—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change” and “Description of Notes—Consolidation, Merger and Sale of Assets.”

The increase in the conversion rate for notes converted in connection with a make-whole fundamental change may not adequately compensate you for any lost value of your notes as a result of such transaction.

If a make-whole fundamental change occurs prior to the maturity date and a holder elects to convert its notes in connection with such make-whole fundamental change, under certain circumstances, we will increase the conversion rate by a number of additional shares of our common stock for notes converted in connection with such make-whole fundamental change. The increase in the conversion rate will be determined based on the date on which the specified corporate transaction becomes effective and the price paid (or deemed to be paid) per share of our common stock in such transaction, as described below under “Description of Notes—Conversion Rights—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change.” The increase

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in the conversion rate for notes converted in connection with a make-whole fundamental change may not adequately compensate you for any lost value of your notes as a result of such transaction. In addition, if the price per share of our common stock paid (or deemed to be paid) in the transaction is greater than \$ per share or less than \$ per share (in each case, subject to adjustment), no additional shares will be added to the conversion rate. Moreover, in no event will the conversion rate per \$1,000 principal amount of notes as a result of this adjustment exceed shares of common stock, subject to adjustment in the same manner as the conversion rate as set forth under “Description of Notes—Conversion Rights—Conversion Rate Adjustments.”

Our obligation to increase the conversion rate for notes converted in connection with a make-whole fundamental change could be considered a penalty, in which case the enforceability thereof would be subject to general principles of reasonableness and equitable remedies.

The conversion rate of the notes may not be adjusted for all dilutive events.

The conversion rate of the notes is subject to adjustment for certain events, including, but not limited to, the issuance of certain stock dividends on our common stock, the issuance of certain rights or warrants, subdivisions, combinations, distributions of capital stock, indebtedness, or assets, cash dividends and certain issuer tender or exchange offers as described under “Description of Notes—Conversion Rights—Conversion Rate Adjustments.” However, the conversion rate will not be adjusted for other events, such as a third-party tender or exchange offer or an issuance of common stock for cash, that may adversely affect the trading price of the notes or our common stock. An event that adversely affects the value of the notes may occur, and that event may not result in an adjustment to the conversion rate. We have no obligation to consider the specific interests of the holders of the notes in engaging in any such offering or transaction.

Some significant restructuring transactions may not constitute a fundamental change, in which case we would not be obligated to offer to repurchase the notes.

Upon the occurrence of a fundamental change, you have the right to require us to repurchase your notes. However, the fundamental change provisions will not afford protection to holders of notes in the event of other transactions that could adversely affect the notes. For example, transactions such as leveraged recapitalizations, refinancings, restructurings, or acquisitions initiated by us may not constitute a fundamental change requiring us to offer to repurchase the notes. In the event of any such transaction, the holders would not have the right to require us to repurchase the notes, even though each of these transactions could increase the amount of our indebtedness, or otherwise adversely affect our capital structure or any credit ratings, thereby adversely affecting the holders of notes.

Certain provisions in the indenture governing the notes may delay or prevent an otherwise beneficial takeover attempt of us.

Certain provisions in the indenture governing the notes may make it more difficult or expensive for a third party to acquire us. For example, the indenture governing the notes will require us to repurchase the notes for cash upon the occurrence of a fundamental change and, in certain circumstances, to increase the conversion rate for a holder that converts its notes in connection with a make-whole fundamental change. A takeover of us may trigger the requirement that we repurchase the notes and/or increase the conversion rate, which could make it more costly for a potential acquirer to engage in such takeover. Such additional costs may have the effect of delaying or preventing a takeover of us that would otherwise be beneficial to investors.

We cannot assure you that an active trading market will develop for the notes.

Prior to this offering, there has been no trading market for the notes, and we do not intend to apply to list the notes on any securities exchange or to arrange for quotation on any automated dealer quotation system. We have been informed by the underwriters that they intend to make a market in the notes after the offering is completed.

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However, the underwriters may cease their market-making at any time without notice. In addition, the liquidity of the trading market in the notes, and the market price quoted for the notes, may be adversely affected by changes in the overall market for this type of security and by changes in our financial performance or prospects or in the prospects for companies in our industry generally. As a result, we cannot assure you that an active trading market will develop for the notes. We believe that historically, the market for non-investment grade debt has been subject to severe disruptions that have caused substantial volatility in the prices of securities similar to the notes. The market, if any, for the notes may experience similar disruptions and any such disruptions may materially adversely affect the liquidity in that market or the prices at which you may sell your notes. In addition, subsequent to the initial issuance of the notes, the notes may trade at a discount from their initial offering price, depending upon prevailing interest rates, the market for similar notes, our performance and other factors. If an active trading market does not develop or is not maintained, the market price and liquidity of the notes may be adversely affected. In that case you may not be able to sell your notes at a particular time or you may not be able to sell your notes at a favorable price.

Any adverse rating of the notes may cause their trading price to fall.

We do not intend to seek a rating on the notes. However, if a rating service were to rate the notes and if such rating service were to lower its rating on the notes below the rating initially assigned to the notes or otherwise announces its intention to put the notes on credit watch, the trading price of the notes could decline.

You may be subject to tax if we make or fail to make certain adjustments to the conversion rate of the notes even though you do not receive a corresponding cash distribution.

The conversion rate of the notes is subject to adjustment in certain circumstances, including the payment of cash dividends and in connection with a make-whole fundamental change. Adjustments or failures to adjust (or to adjust adequately) that have the effect of increasing the proportionate interest of a holder of notes in our assets or earnings may give rise to a constructive distribution for U.S. federal income tax purposes if the adjustment or failure to adjust is made in connection with other shareholders receiving a distribution of money or other property. You may be deemed to have received a dividend from us, resulting in ordinary dividend income to you, as a result of such an adjustment or failure to adjust, even though you do not receive any cash related to that adjustment and even though you might not exercise your conversion right. It is unclear whether any such constructive dividend would be eligible for preferential tax treatment generally available for dividends paid by U.S. corporations to U.S. holders. If you are a non-U.S. holder (as defined in "Material U.S. Federal Income Tax Considerations"), any deemed dividend would be subject to U.S. federal withholding tax at a 30% rate or such lower rate as may be specified by an applicable treaty, which may be set off against subsequent payments on the notes. We do not currently expect to make distributions, although no assurance can be given in this regard. See "Material U.S. Federal Income Tax Considerations."

We have broad discretion in the use of the net proceeds from this offering and, if completed, the Concurrent Common Stock Offering as well as our existing cash and we may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and the Concurrent Common Stock Offering, including for any of the purposes described in the section entitled "Use of Proceeds," as well as our existing cash, and you will be relying on the judgment of our management regarding such application. You will not have the opportunity, as part of your investment decision, to assess whether the proceeds from this offering and our existing cash are being used effectively. Our management might not apply the net proceeds or our existing cash in ways that ultimately increase the value of your investment. If we do not invest or apply the net proceeds from this offering, the Concurrent Common Stock Offering or our existing cash in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline. Pending their use, we may invest the net proceeds from this offering and the Concurrent Common Stock Offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders.

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Because the notes will initially be held in book-entry form, holders must rely on DTC's procedures to receive communications relating to the notes and exercise their rights and remedies.

We will initially issue the notes in the form of one or more global notes registered in the name of Cede & Co., as nominee of DTC. Beneficial interests in global notes will be shown on, and transfers of global notes will be effected only through, the records maintained by DTC. Except in limited circumstances, we will not issue certificated notes. See "Description of Notes—Book-Entry, Settlement and Clearance." Accordingly, if you own a beneficial interest in a global note, then you will not be considered an owner or holder of the notes. Instead, DTC or its nominee will be the sole holder of the notes. Unlike persons who have certificated notes registered in their names, owners of beneficial interests in global notes will not have the direct right to act on our solicitations for consents or requests for waivers or other actions from holders. Instead, those beneficial owners will be permitted to act only to the extent that they have received appropriate proxies to do so from DTC or, if applicable, a DTC participant. The applicable procedures for the granting of these proxies may not be sufficient to enable owners of beneficial interests in global notes to vote on any requested actions on a timely basis. In addition, notices and other communications relating to the notes will be sent to DTC. We expect DTC to forward any such communications to DTC participants, which in turn would forward such communications to indirect DTC participants. But we can make no assurances that you will timely receive any such communications.

Risks Related to Our Concurrent Common Stock Offering and Our Common Stock

Our preliminary second quarter financial results represent management's current estimates and are subject to change.

The preliminary financial results contained in "Prospectus Supplement Summary—Second Quarter Preliminary Financial Results" are only preliminary estimates and are based on information available to management as of the date of this prospectus supplement, and these expectations could change. Our actual financial results as of, and for the three months ended June 30, 2019 are subject to the completion of our financial statements as of, and for such period. Such actual financial results will not be available until after this offering is completed and, consequently, will not be available to you prior to investing in this offering. Our actual financial results as of, and for the three months ended June 30, 2019 may differ materially from the preliminary financial results we have provided as a result of the completion of our final adjustments, review by our independent registered public accountants and other developments arising between now and the time that our financial results for such period are finalized. Our independent registered public accountants have not audited, reviewed or performed any procedures with respect to such preliminary estimates and accordingly do not express an opinion or any other form of assurance with respect thereto. Complete results as of, and for the three months ended June 30, 2019 will be announced during our second quarter financial results earnings conference call and included in our Quarterly Report on Form 10-Q for the three months ended June 30, 2019. See the other risks described in this section and "Special Note Regarding Forward-Looking Statements" for additional information regarding factors that could result in differences between these preliminary and the actual financial results we will report for the three months ended June 30, 2019.

The price of our common stock historically has been volatile, which may affect the price at which you could sell any shares of our common stock.

The market price for our common stock historically has been highly volatile and could continue to be subject to wide fluctuations. The market price for our common stock has varied between a high price of \$87.42 on July 1, 2019 and a low price of \$45.00 on August 2, 2018 in the twelve-month period ending on July 12, 2019. This volatility may affect the price at which you could sell the shares of our common stock, and the sale of substantial amounts of our common stock could adversely affect the price of our common stock. Our stock price is likely to continue to be volatile and subject to significant price and volume fluctuations in response to market and other factors, including: variations in our quarterly operating results from our expectations or those of securities analysts or investors; downward revisions in securities analysts' estimates; and announcement by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments; and the

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other factors discussed herein, in our Annual Report on Form 10-K for the year ended December 31, 2018, in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 or in future periodic reports.

This offering is not conditioned on the consummation of any other financing, including the Concurrent Common Stock Offering.

We intend to use the net proceeds of this offering, together with the proceeds from the Concurrent Common Stock Offering, as described in “Use of Proceeds” herein and in the prospectus supplement that pertains to the Concurrent Common Stock Offering. However, neither the completion of this offering nor of the Concurrent Common Stock Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Common Stock Offering does not occur, and vice versa. We cannot assure you that the Concurrent Common Stock Offering will be completed on the terms described herein, or at all.

Conversion of the notes and the 2016 Notes will dilute the ownership interest of our existing stockholders or may otherwise depress the price of our common stock.

The conversion of some or all of the notes or the 2016 Notes will dilute the ownership interests of existing stockholders, unless we satisfy any such conversions solely with cash. As described elsewhere in this prospectus supplement, we anticipate that we will settle conversions (and privately negotiated exchange transactions) of all of the 2016 Notes with cash in an amount equal to the principal amount thereof (and, with respect to exchanges, if any, that occur contemporaneously with this offering, accrued and unpaid interest) and common stock in excess thereof prior to the end of our third quarter. Any sales in the public market of our common stock issuable upon such conversion or exchange could adversely affect prevailing market prices of our common stock. In addition, the existence of the notes and the 2016 Notes may encourage short selling by market participants because the conversion of such notes could be used to satisfy short positions, or anticipated conversion of such notes into shares of our common stock could depress the price of our common stock.

The Concurrent Common Stock Offering and any future sales of our common stock or equity-linked securities in the public market or the perception that these sales might occur, including as a result of the issuance of the notes offered hereby or the issuance of any additional equity-linked securities or the conversion of any of our equity-linked securities, including the notes offered hereby and the 2016 Notes, could lower the market price for our common stock.

The Concurrent Common Stock Offering and any future sales of our common stock or equity-linked securities in the public market or the perception that these sales might occur, including as a result of the issuance of the notes offered hereby or the issuance of any additional equity-linked securities or the conversion of any of our equity-linked securities, including the notes offered hereby and the 2016 Notes, could lower the market price for our common stock and could impair our ability to raise capital through the sale of additional equity or equity-linked securities. In addition, a substantial number of shares of our common stock is reserved for issuance upon the exercise of stock options, the vesting of restricted stock units and upon conversion of the notes. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

In addition, the sale of substantial amounts of our common stock could adversely impact its price. As of March 31, 2019, we had outstanding 44,073,998 shares of our common stock, options to purchase 1,027,831 shares of our common stock (of which 540,600 were exercisable as of that date) and restricted stock units to acquire 680,549 shares of our common stock. Furthermore, we issued 3,144,531 shares of our common stock on May 3, 2019 in connection with the May 2019 Offering and 779,221 shares of our common stock to the Stockholder on May 31, 2019 in connection with the C Technologies acquisition. As early as the six month anniversary of the consummation of the C Technologies acquisition, the shares of stock issued to the Stockholder as consideration in the acquisition may become eligible for sale in the public market. The sale or the availability for sale of a large number of shares of our common stock in the public market could cause the price of our common stock to decline.

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We and our directors and executive officers have agreed that for a period of 60 days after the date of this prospectus supplement, subject to specified exceptions (including for the issuance of common stock to settle exchanges or conversions of the 2016 Notes), we or they will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock. Sales of common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock by us, our directors or executive officers after the expiration of the lockup period could have a material adverse effect on the trading price of our common stock.

USE OF PROCEEDS

We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$242.6 million (or approximately \$279.1 million if the underwriters exercise their over-allotment option to purchase additional notes in full).

In addition, concurrently with this offering of notes, we are offering \$100 million of our common stock (or \$115 million of our common stock if the underwriters of such offering exercise in full their option to purchase additional shares of common stock) in an underwritten offering pursuant to a separate prospectus supplement. We estimate that the net proceeds to us from the Concurrent Common Stock Offering, after deducting underwriting discounts and commissions and estimated expenses payable by us, will be approximately \$94.5 million (or approximately \$108.7 million if the underwriters in the Concurrent Common Stock Offering exercise in full their option to purchase additional shares of common stock).

We intend to use the net proceeds from this offering and, if completed, the Concurrent Common Stock Offering for working capital and other general corporate purposes, including up to approximately \$115.0 million to finance the redemption, or a portion of the consideration due in connection with a conversion or exchange of, the 2016 Notes. Net proceeds from the Offerings may also be used to fund possible acquisitions of, or investments in, complementary businesses, products, services and technologies. We have not entered into any agreements or commitments with respect to any acquisitions or investments at this time. Neither the completion of this offering nor of the Concurrent Common Stock Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Common Stock Offering does not occur, and vice versa. We cannot assure you that the Concurrent Common Stock Offering will be completed on the terms described herein, or at all.

Contemporaneously with the pricing of the Offerings, we may enter into privately negotiated exchange transactions with certain holders of the 2016 Notes to exchange a portion of the 2016 Notes for a combination of cash in an amount equal to the principal amount exchanged and accrued and unpaid interest thereon and shares of common stock in excess thereof. Furthermore, contemporaneously with the closing of the Offerings, we intend to issue a notice of redemption in respect of our remaining 2016 Notes, which we expect would result in the conversion of all or substantially all of the remaining 2016 Notes in accordance with their terms prior to the end of our third quarter of 2019. Our intent is to settle conversions of the remaining 2016 Notes with cash in an amount equal to the principal amount thereof and common stock in excess thereof. The 2016 Notes bear interest at a rate of 2.125% per year and mature on June 1, 2021.

Our expected use of net proceeds from the Offerings represents our current intentions based upon our present plans and business condition. As of the date of this prospectus supplement, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of the Offerings or the amounts that we will actually spend on the uses set forth above.

Pending the use of the net proceeds from the Offerings, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities, certificates of deposit or government securities.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of March 31, 2019:

- on an actual basis;
- on an as adjusted basis to reflect the consummation of (i) the C Technologies acquisition, which occurred on May 31, 2019, pursuant to which we acquired 100% of the outstanding capital stock of C Technologies in exchange for approximately \$195 million in cash and 779,221 shares of our common stock, and (ii) the May 2019 Offering, which occurred on May 3 2019, pursuant to which 3,144,531 shares of common stock were sold to the public for total proceeds, net of underwriting discounts and commissions (but before deducting offering expenses payable by us), of approximately \$190.2 million, in each case, as if it had occurred on March 31, 2019;
- on an as further adjusted basis to further reflect the sale of \$250.0 million aggregate principal amount of notes in this offering (assuming the underwriters in this offering do not exercise their over-allotment option to purchase additional notes), after deducting underwriting discounts and commissions and estimated offering expenses payable by us; and
- on an as further adjusted basis to further reflect the sale of 1,176,470 shares of our common stock in the Concurrent Common Stock Offering (assuming the underwriters in the Concurrent Common Stock Offering do not exercise their option to purchase additional shares of common stock), based on an assumed public offering price of \$85.00 per share (the last reported sale price of our common stock on the Nasdaq Global Select Market on July 12, 2019), after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

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You should read this table in conjunction with “Use of Proceeds” appearing elsewhere in this prospectus supplement, as well as “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our condensed consolidated financial statements and the related notes thereto, incorporated by reference into this prospectus supplement from our Annual Report on Form 10-K for the year ended December 31, 2018 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.

	As of March 31, 2019			
	<u>Actual</u>	<u>As Adjusted for the C Technologies Acquisition and the May 2019 Offering</u>	<u>As Further Adjusted for this Offering</u>	<u>As Further Adjusted for the Concurrent Common Stock Offering</u>
(Unaudited, amounts in thousands)				
Cash and cash equivalents ⁽¹⁾	\$196,135	\$ 193,763	\$ 436,388	\$ 530,888
Debt:				
2.125% convertible senior notes due 2021 ⁽¹⁾⁽²⁾	\$114,989	\$ 114,989	\$ 114,989	\$ 114,989
% convertible senior notes due 2024 ⁽²⁾	—	—	250,000	250,000
Total debt	114,989	114,989	364,989	364,989
Stockholders’ equity:				
Preferred stock, \$0.01 par value, 5,000,000 shares authorized, no shares issued or outstanding actual, as adjusted and as further adjusted	—	—	—	—
Common stock, \$0.01 par value; 80,000,000 shares authorized; 44,073,998 shares issued and outstanding actual, 47,997,750 shares issued and outstanding as adjusted for the C Technologies acquisition and May 2019 Offering and as further adjusted for this offering, and 49,174,220 shares issued and outstanding as further adjusted for the Concurrent Common Stock Offering ⁽¹⁾⁽³⁾	441	480	480	492
Additional paid-in-capital ⁽¹⁾⁽⁴⁾	645,883	889,403	889,403	983,891
Accumulated other comprehensive loss	(13,784)	(13,784)	(13,784)	(13,784)
Accumulated deficit	(7,515)	(11,352)	(11,352)	(11,352)
Total stockholders’ equity ⁽¹⁾⁽⁴⁾	625,025	864,747	864,747	959,247
Total capitalization ⁽¹⁾⁽⁴⁾	\$740,014	\$ 979,736	\$ 1,229,736	\$ 1,324,236

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Each \$1.00 increase (decrease) in the assumed public offering price of \$85.00 per share (the last reported sale price of our common stock on the Nasdaq Global Select Market on July 12, 2019) in the Concurrent Common Stock Offering would decrease (increase) the number of shares of common stock to be issued by us in the Concurrent Common Stock Offering by approximately 14,000 shares, assuming we do not change aggregate dollar amount of shares offered by us in the Concurrent Common Stock Offering. We may also increase or decrease the aggregate dollar amount of shares we are offering in the Concurrent Common Stock Offering. The as adjusted and as further adjusted information above is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering and the Concurrent Common Stock Offering determined at pricing.

- (1) Does not reflect the use of up to approximately \$115.0 million of the net proceeds from the Offerings or the shares of our common stock that we intend to use to finance the redemption, or a portion of the consideration due in connection with a conversion or exchange of, the 2016 Notes, as described in “Use of Proceeds.”
- (2) In accordance with ASC 470-20, a convertible debt instrument (such as the 2016 Notes and the notes) that may be wholly or partially settled in cash is required to be separated into a liability and an equity component, such that interest expense reflects the issuer’s non-convertible debt interest rate. Upon issuance, a debt discount is recognized as a decrease in debt and an increase in equity. The debt component accretes up to the principal amount over the expected term of the debt. ASC 470-20 does not affect the actual amount that we are required to repay, and the amount shown in the table above for the 2016 Notes and the notes is the aggregate principal amount of the Notes without reflecting the debt discount or fees and expenses that we are required to recognize or, with respect to the notes, the increase in paid-in capital on our consolidated balance sheet.
- (3) The common stock shown in the table above excludes 1,027,831 shares of common stock issuable upon the exercise of stock options under the Plans at a weighted average exercise price of \$28.53 per share, 680,549 shares of common stock issuable upon the vesting of restricted stock units under the Plans and 2,747,792 shares of our common stock reserved for future issuance under the 2018 Plan, all as of March 31, 2019. In addition, the common stock shown in the table above excludes the shares of common stock reserved for issuance upon conversion of the 2016 Notes and the notes.
- (4) The issuance of the notes (after giving effect to the application of ASC 470-20 as described in note (2) above) will result in an increase to additional paid-in capital and, therefore, an increase in total stockholders’ equity and total capitalization. However, amounts shown in the table above do not reflect the application of ASC 470-20 to the notes.

DIVIDEND POLICY

We have not paid any dividends since our inception and do not intend to pay any dividends on our common stock in the foreseeable future. We anticipate that we will retain all earnings, if any, to support our operations. Any future determination as to the payment of dividends will be at the sole discretion of our Board of Directors and will depend on our financial condition, results of operations, capital requirements, contractual obligations and other factors our Board of Directors deems relevant.

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DESCRIPTION OF NOTES

We will issue the % Convertible Senior Notes due 2024 (the “notes”) under a base indenture (the “base indenture”) and a supplemental indenture with respect to the notes (the “supplemental indenture” and, together with the base indenture, the “indenture”), each to be dated as of the date of the initial issuance of the notes, and in each case between us and Wilmington Trust, National Association, as trustee (the “trustee”). This description of the notes supplements and, to the extent it is inconsistent, replaces the description of the general provisions of the notes and the base indenture in the accompanying prospectus. The terms of the notes include those expressly set forth in the indenture and those made part of the indenture by reference to the Trust Indenture Act of 1939, as amended (the “Trust Indenture Act”).

A copy of the indenture is available, free of charge, as described under “Where You Can Find Additional Information.”

The following description is a summary of the material provisions of the notes and the indenture and does not purport to be complete. This summary is subject to and is qualified by reference to all of the provisions of the notes and the indenture, including the definitions of certain terms used in the notes and the indenture. We urge you to read these documents because they, and not this description, define your rights as a holder of the notes.

For purposes of this description, references to “we,” “our” and “us” refer only to Repligen Corporation and not to any of its subsidiaries.

General

The notes will:

- be our general unsecured, senior obligations;
- initially be limited to an aggregate principal amount of \$250.0 million (or \$287.5 million if the underwriters exercise their over-allotment option in full);
- bear cash interest from July , 2019 at an annual rate of %, payable semiannually on January 15 and July 15 of each year, beginning on January 15, 2020;
- be subject to repurchase by us at the option of the holders following a fundamental change (as defined below under “—Fundamental Change Permits Holders to Require Us to Repurchase Notes”) at a fundamental change repurchase price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest to, but excluding, the relevant fundamental change repurchase date;
- mature on July 15, 2024 unless earlier converted or repurchased;
- not be redeemable prior to the maturity date;
- be issued in denominations of \$1,000 and integral multiples of \$1,000; and
- be represented by one or more registered notes in global form, but in certain limited circumstances may be represented by notes in definitive form. See “—Book-Entry, Settlement and Clearance.”

Subject to satisfaction of certain conditions and during the periods described below under “—Conversion Rights,” the notes may be converted at an initial conversion rate of shares of common stock per \$1,000 principal amount of notes (equivalent to an initial conversion price of approximately \$ per share of common stock). The conversion rate is subject to adjustment if certain events occur.

We will settle conversions of notes by paying or delivering, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election, as described under “— Conversion Rights—Settlement upon Conversion.” You will not receive any separate cash payment for interest, if any, accrued and unpaid to the conversion date except under the limited circumstances described below.

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The indenture will not limit the amount of debt, including secured debt, that may be issued by us or our subsidiaries under the indenture or otherwise. The indenture will not contain any financial covenants and will not restrict us from paying dividends or issuing or repurchasing our equity or debt securities or from repaying indebtedness. Other than restrictions described under “—Fundamental Change Permits Holders to Require Us to Repurchase Notes” and “—Consolidation, Merger and Sale of Assets” below and except for the provisions set forth under “—Conversion Rights—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change,” the indenture will not contain any covenants or other provisions designed to afford holders of the notes protection in the event of a highly leveraged transaction involving us or in the event of a decline in our credit rating as the result of a takeover, recapitalization, highly leveraged transaction or similar restructuring involving us that could adversely affect such holders.

We may, without the consent of, or notice to, the holders, reopen the indenture for the notes and issue additional notes under the indenture with the same terms as the notes offered hereby (other than differences in the issue date, the issue price and interest accrued prior to the issue date of such additional notes) in an unlimited aggregate principal amount; provided that if any such additional notes are not fungible with the notes initially offered hereby for U.S. federal income tax purposes, such additional notes will have one or more separate CUSIP numbers. The notes offered by this prospectus supplement and any additional notes would rank equally and ratably and would be treated as a single series for all purposes under the indenture.

We do not intend to list the notes on any securities exchange or any automated dealer quotation system.

Except to the extent the context otherwise requires, we use the term “notes” in this prospectus supplement to refer to each \$1,000 principal amount of notes. We use the term “common stock” in this prospectus supplement to refer to our common stock, par value \$0.01 per share. References in this prospectus supplement to a “holder” or “holders” of notes that are held through The Depository Trust Company (“DTC”) are references to owners of beneficial interests in such notes, unless the context otherwise requires. However, we and the trustee will treat the person in whose name the notes are registered (Cede & Co., in the case of notes held through DTC) as the owner of such notes for all purposes. References herein to the “close of business” refer to 5:00 p.m., New York City time, and to the “open of business” refer to 9:00 a.m., New York City time.

Purchase and Cancellation

We will cause all notes surrendered for payment, repurchase (including as described below), registration of transfer or exchange or conversion, if surrendered to any person that we control other than the trustee (including any of our agents, subsidiaries or affiliates, in each case, that we control), to be delivered to the trustee for cancellation and such notes will no longer be considered “outstanding” under the indenture upon their payment, repurchase or conversion, as applicable. All notes delivered to the trustee shall be cancelled promptly by the trustee. Except for notes surrendered for registration of transfer or exchange, no notes shall be issued to replace any notes cancelled as provided in the indenture.

We may, to the extent permitted by law, and directly or indirectly (regardless of whether such notes are surrendered to us), repurchase notes in the open market or otherwise, whether by us or our subsidiaries or through a privately negotiated transactions or public tender or exchange offer or through counterparties to private agreements, including by cash-settled swaps or other derivatives, in each case, without prior notice to or consent of the holders of the notes. We will cause any notes so repurchased (other than notes repurchased pursuant to cash-settled swaps or other derivatives) to be surrendered to the trustee for cancellation, and they will no longer be considered “outstanding” under the indenture upon their repurchase.

Payments on the Notes; Paying Agent and Registrar; Transfer and Exchange

We will pay or cause the paying agent to pay the principal of, and interest on, notes in global form registered in the name of or held by DTC or its nominee in immediately available funds to DTC or its nominee, as the case may be, as the registered holder of such global note.

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We will pay or cause the paying agent to pay the principal of any certificated notes at the office or agency designated by us for that purpose. We have initially designated the trustee as our paying agent and registrar and its corporate trust office as a place where notes may be presented for payment or for registration of transfer. We may, however, change the paying agent or registrar without giving prior notice to the holders of the notes, and we may act as paying agent or registrar. Interest on certificated notes will be payable (i) to holders holding certificated notes having an aggregate principal amount of \$5,000,000 or less, by check mailed to the holders of these notes and (ii) to holders holding certificated notes having an aggregate principal amount of more than \$5,000,000, either by check mailed to each such holder or, upon written application by such a holder to the registrar not later than the relevant regular record date, by wire transfer in immediately available funds to that holder's account within the United States, which application shall remain in effect until the holder notifies, in writing, the registrar to the contrary.

A holder of notes may transfer or exchange notes at the office of the registrar in accordance with the indenture. The registrar and the trustee may require a holder, among other things, to furnish appropriate endorsements and transfer documents. No service charge will be imposed by us, the trustee or the registrar for any registration of transfer or exchange of notes, but we may require a holder to pay a sum sufficient to cover any transfer tax or other similar governmental charge required by law or permitted by the indenture. We are not required to transfer or exchange any note surrendered for conversion or required repurchase upon a fundamental change.

The registered holder of a note will be treated as its owner for all purposes.

Interest

The notes will bear cash interest at a rate of % per year until maturity. Interest on the notes will accrue from July , 2019 or from the most recent date on which interest has been paid or duly provided for. Interest will be payable semiannually in arrears on January 15 and July 15 of each year, beginning on January 15, 2020.

Interest will be paid to the person in whose name a note is registered at the close of business on January 1 or July 1, as the case may be, immediately preceding the relevant interest payment date (each, a "regular record date"). Interest on the notes will be computed on the basis of a 360-day year composed of twelve 30-day months, and, for partial months, on the basis of the number of days actually elapsed in a 30-day month.

If any interest payment date, the maturity date or any earlier required fundamental change repurchase date of a note falls on a day that is not a business day, the required payment will be made on the next succeeding business day with the same force and effect as if made on the relevant scheduled payment date, and no interest on such payment will accrue in respect of the delay. The term "business day" means, with respect to any note, any day other than a Saturday, a Sunday or a day on which the Federal Reserve Bank of New York is authorized or required by law or executive order to close or be closed.

Unless the context otherwise requires, all references to interest in this prospectus supplement include additional interest, if any, payable at our election as the sole remedy during certain periods for an event of default relating to the failure to comply with our reporting obligations as described under "—Events of Default."

Ranking

The notes will be our senior unsecured obligations and will rank:

- senior in right of payment to all of our indebtedness that is expressly subordinated in right of payment to the notes;
- equal in right of payment with all of our unsecured indebtedness and other liabilities that are not so subordinated;

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- effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and
- structurally junior to all indebtedness and other liabilities of our current or future subsidiaries (including trade payables).

The indenture governing the notes will not limit our ability to incur additional indebtedness in the future, including secured indebtedness, and such indebtedness may be substantial. In the event of our bankruptcy, liquidation, reorganization or other winding up, our assets that secure secured debt will be available to pay obligations on the notes only after all indebtedness under such secured debt has been repaid in full from such assets. We advise you that there may not be sufficient assets remaining to pay amounts due on any or all the notes then outstanding.

The notes will be structurally subordinated to all indebtedness and other liabilities of our subsidiaries (including trade payables). A portion of our operations is conducted through our subsidiaries. The notes will not be guaranteed by any of our current or future subsidiaries. Our subsidiaries are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay amounts due with respect to the notes or to make any funds available therefor, whether by dividends, loans or other payments. Our right to receive any assets of any of our subsidiaries upon such subsidiary's bankruptcy, liquidation or reorganization, and, therefore, the right of the holders of notes to participate in those assets, will be subject to prior claims of creditors of the subsidiary, including trade creditors, and such subsidiary may not have sufficient assets remaining to make any payments to us as a shareholder or otherwise. We advise holders of notes that there may not be sufficient assets remaining to pay amounts due on any or all the notes then outstanding.

As of March 31, 2019, we and our subsidiaries had \$172.9 million of indebtedness, which includes \$115.0 million principal amount of our 2016 Notes, and our subsidiaries had no other liabilities (excluding trade payables, intercompany obligations and liabilities of a type not required to be reflected on a balance sheet of such subsidiaries in accordance with GAAP). After giving effect to the issuance of the notes (assuming no exercise of the underwriters' over-allotment option to purchase additional notes), the aggregate principal amount of our consolidated indebtedness as of March 31, 2019 would have been \$365.0 million, which includes approximately \$115.0 million principal amount of the 2016 Notes in respect of which we intend to issue a notice of redemption contemporaneously with the closing of this offering. The ability of our subsidiaries to pay dividends and make other payments to us may be restricted by, among other things, our future debt instruments, applicable corporate and other laws and regulations as well as agreements to which our subsidiaries may in the future become a party. We may not be able to pay the cash portion of any settlement amount upon conversion of the notes, or to pay cash for the fundamental change repurchase price if a holder requires us to repurchase notes upon a fundamental change as described below. See "Risk Factors—Risks Related to this Offering and the Notes—We may not have the ability to raise the funds necessary to make periodic interest payments, pay the principal amount at maturity, settle conversions of the notes in cash (in whole or in part) or to repurchase the notes upon a fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion of the notes or to repurchase the notes."

No Redemption

We may not redeem the notes prior to the maturity date, and no "sinking fund" is provided for the notes, which means that we are not required to redeem or retire the notes periodically.

Conversion Rights

General

Prior to the close of business on the business day immediately preceding April 15, 2024, the notes will be convertible only upon satisfaction of one or more of the conditions described under the headings "—Conversion

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upon Satisfaction of Sale Price Condition,” “—Conversion upon Satisfaction of Trading Price Condition” and “—Conversion upon Specified Corporate Events.” On or after April 15, 2024 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their notes at any time irrespective of the foregoing conditions.

The conversion rate will initially be _____ shares of common stock per \$1,000 principal amount of notes (equivalent to an initial conversion price of approximately \$ _____ per share of common stock). The conversion rate is subject to adjustment if certain events occur as described under “—Conversion Rate Adjustments” and “—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change.”

Upon conversion of a note, we will satisfy our conversion obligation by paying or delivering, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election, all as set forth below under “—Settlement upon Conversion.” If we satisfy our conversion obligation solely in cash or through payment and delivery, as the case may be, of a combination of cash and shares of our common stock, the amount of cash and the number of shares of common stock, if any, due upon conversion will be based on a daily conversion value (as defined below) calculated on a proportionate basis for each trading day in a 40 trading day observation period (as defined below under “—Settlement upon Conversion”). The trustee will initially act as the conversion agent.

A holder may convert fewer than all of such holder’s notes so long as the notes converted are in minimum denominations of \$1,000 or an integral multiple of \$1,000 principal amount thereof.

Upon conversion, you will not receive any separate cash payment for accrued and unpaid interest, if any, except as described below, and we will not adjust the conversion rate for any accrued and unpaid interest on the notes. We will not issue fractional shares of our common stock upon conversion of notes. Instead, we will pay cash in lieu of delivering any fractional share as described under “—Settlement upon Conversion.” Our payment and delivery, as the case may be, to you of the cash, shares of our common stock or a combination thereof, as the case may be, into which a note is convertible will be deemed to satisfy in full our obligation to pay:

- the principal amount of the note; and
- accrued and unpaid interest, if any, to, but not including, the relevant conversion date.

As a result, accrued and unpaid interest, if any, to, but not including, the relevant conversion date will be deemed to be paid in full rather than cancelled, extinguished or forfeited. Upon a conversion of notes into a combination of cash and shares of our common stock, accrued and unpaid interest will be deemed to be paid first out of the cash paid upon such conversion.

Notwithstanding the immediately preceding paragraph, if notes are converted after the close of business on a regular record date for the payment of interest and prior to the open of business on the corresponding interest payment date, holders of such notes at the close of business on such regular record date will receive the full amount of interest payable on such notes on the corresponding interest payment date notwithstanding the conversion. Notes surrendered for conversion during the period from the close of business on any regular record date to the open of business on the immediately following interest payment date, however, must be accompanied by funds equal to the amount of interest payable on the notes so converted on the corresponding interest payment date (regardless of whether the converting holder was the holder of record on such regular record date); provided that no such payment need be made:

- for conversions following the close of business on the regular record date immediately preceding the maturity date;
- if we have specified a fundamental change repurchase date that is after a regular record date and on or prior to the second business day following the corresponding interest payment date, in respect of notes converted after the close of business on such record date and on or prior to the open of business on the second business day following such interest payment date; or

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- to the extent of any overdue interest, if any overdue interest exists at the time of conversion with respect to such note.

Therefore, for the avoidance of doubt, all record holders of notes on the regular record date immediately preceding the maturity date and any fundamental change repurchase date described in the second bullet in the immediately preceding paragraph will receive the full interest payment due on the maturity date or other applicable interest payment date regardless of whether their notes have been converted following such regular record date.

If a holder converts notes, we will pay any documentary, stamp or similar issue or transfer tax due on any issuance of any shares of our common stock upon the conversion, unless the tax is due because the holder requests any such shares to be issued in a name other than the holder's name, in which case the holder will pay that tax.

Holders may surrender their notes for conversion only under the following circumstances:

Conversion upon Satisfaction of Sale Price Condition

Prior to the close of business on the business day immediately preceding April 15, 2024, a holder may surrender all or any portion of its notes for conversion at any time during any calendar quarter commencing after the calendar quarter ending on September 30, 2019 (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 the period of 30 consecutive trading days ending on, and including, 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.

The "last reported sale price" of our common stock on any date means the closing sale price per share (or if no closing sale price is reported, the average of the bid and ask prices or, if more than one in either case, the average of the average bid and the average ask prices) on that date as reported in composite transactions for the principal U.S. national or regional securities exchange on which our common stock is traded. If our common stock is not listed for trading on a U.S. national or regional securities exchange on the relevant date, the "last reported sale price" will be the last quoted bid price per share for our common stock in the over-the-counter market on the relevant date as reported by OTC Markets Group Inc. or a similar organization. If our common stock is not so quoted, the "last reported sale price" will be the average of the mid-point of the last bid and ask prices per share for our common stock on the relevant date received from each of at least three nationally recognized independent investment banking firms selected by us for this purpose. The "last reported sale price" will be determined without regard to after-hours trading or any other trading outside of regular trading session hours.

On or after the occurrence of a share exchange event (as defined under "—Recapitalizations, Reclassifications and Changes of Our Common Stock"), the last reported sale price of a unit of reference property on any date will be determined in accordance with the definition of "last reported sale price" above (except in the case of a share exchange event in connection with which holders of our common stock receive only cash as set forth under "—Recapitalizations, Reclassifications and Changes of Our Common Stock" below, in which case the last reported sale price will be equal to the per share amount of cash received by holders of our common stock in such share exchange event).

Except for the purposes of determining amounts due upon conversion, "trading day" means a day on which (i) trading in our common stock (or other security for which a closing sale price or last reported sale price must be determined) generally occurs on The Nasdaq Global Select Market or, if our common stock (or such other security) is not then listed on The Nasdaq Global Select Market, on the principal other U.S. national or regional securities exchange on which our common stock (or such other security) is then listed or, if our common stock (or such other security) is not then listed on a U.S. national or regional securities exchange, on the principal other

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market on which our common stock (or such other security) is then traded and (ii) a last reported sale price for our common stock (or closing sale price for such other security) is available on such securities exchange or market. If our common stock (or such other security) is not so listed or traded, “trading day” means a “business day.”

Conversion upon Satisfaction of Trading Price Condition

Prior to the close of business on the business day immediately preceding April 15, 2024, a holder of notes may surrender all or any portion of its notes for conversion at any time during the five business day period after any five consecutive trading day period (the “measurement period”) in which the “trading price” per \$1,000 principal amount of notes, as determined following a request by a holder of notes in accordance with the procedures described below, 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, subject to compliance with the procedures and conditions described below concerning the bid solicitation agent’s obligation to make a trading price determination.

The “trading price” per \$1,000 principal amount of the notes on any date of determination means the average of the secondary market bid quotations obtained by the bid solicitation agent for \$2,000,000 principal amount of notes at approximately 3:30 p.m., New York City time, on such determination date from three independent nationally recognized securities dealers we select for this purpose; provided that if three such bids cannot reasonably be obtained by the bid solicitation agent but two such bids are obtained, then the average of the two bids shall be used, and if only one such bid can reasonably be obtained by the bid solicitation agent, that one bid shall be used. If the bid solicitation agent cannot reasonably obtain at least one bid for \$2,000,000 principal amount of notes from a nationally recognized securities dealer selected by us, then the trading price per \$1,000 principal amount of notes for such determination date will be deemed to be less than 98% of the product of the last reported sale price of our common stock and the conversion rate. Any such determination will be conclusive absent manifest error. If (x) we are not acting as bid solicitation agent, and we do not, when we are required to, instruct the bid solicitation agent to obtain bids, or if we give such instruction to the bid solicitation agent, and the bid solicitation agent fails to make such determination or (y) we are acting as bid solicitation agent and we fail to make such determination, then, in either case, the trading price per \$1,000 principal amount of notes will be deemed to be less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each trading day of such failure.

The bid solicitation agent shall have no obligation to determine the trading price per \$1,000 principal amount of notes unless we have requested such determination, and we shall have no obligation to make such request unless a holder of at least \$2,000,000 aggregate principal amount of notes provides us with reasonable evidence that the trading price per \$1,000 principal amount of notes would be less than 98% of the product of the last reported sale price of our common stock and the conversion rate. At such time, we shall instruct the bid solicitation agent to determine the trading price per \$1,000 principal amount of notes beginning on the next trading day and on each successive trading day until the trading price per \$1,000 principal amount of notes is greater than or equal to 98% of the product of the last reported sale price of our common stock and the conversion rate. If the trading price condition has been met on any day, we will so notify the holders, the trustee and the conversion agent (if other than the trustee) on or within one business day of such trading day. If, at any time after the trading price condition has been met, the trading price per \$1,000 principal amount of notes is greater than or equal to 98% of the product of the last reported sale price of our common stock and the conversion rate for such trading day, we will so notify the holders, the trustee and the conversion agent (if other than the trustee) that the trading price condition is no longer met and thereafter neither we nor the bid solicitation agent shall be required to solicit bids again until a new holder request is made as provided above.

We will initially act as the bid solicitation agent.

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Conversion upon Specified Corporate Events

Certain Distributions

If, prior to the close of business on the business day immediately preceding April 15, 2024, we elect to:

- issue to all or substantially all holders of our common stock any rights, options or warrants (other than a distribution of rights pursuant to a stockholder rights plan where such rights have not separated from our common stock) entitling them, for a period of not more than 45 calendar days after the announcement date of such issuance, to subscribe for or purchase shares of our common stock at a price per share that is less than the average of the last reported sale prices of our common stock for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement of such issuance; or
- distribute to all or substantially all holders of our common stock our assets, debt securities or rights to purchase our securities (other than a distribution of rights pursuant to a stockholder rights plan where such rights have not separated from our common stock), which distribution has a per share value, as reasonably determined by us, exceeding 10% of the last reported sale price of our common stock on the trading day immediately preceding the date of announcement for such distribution,

then, in either case, we must notify the holders of the notes, the trustee and the conversion agent (if other than the trustee) at least 45 scheduled trading days prior to the ex-dividend date for such issuance or distribution (or, if later in the case of any such separation of rights issued pursuant to a stockholders rights plan, as soon as reasonably practicable after we become aware that such separation of rights has occurred or will occur). Once we have given such notice, holders may surrender all or any portion of their notes for conversion at any time until the earlier of the close of business on the business day immediately preceding the ex-dividend date for such issuance or distribution and our announcement that such issuance or distribution will not take place.

Holders of the notes may not convert their notes pursuant to this provision if they participate (other than in the case of a share split or share combination), at the same time and upon the same terms as holders of our common stock and solely as a result of holding the notes, in any of the transactions described above without having to convert their notes as if they held a number of shares of common stock equal to the applicable conversion rate, multiplied by the principal amount (expressed in thousands) of notes held by such holder.

Certain Corporate Events

If a transaction or event that constitutes a “fundamental change” (as defined under “—Fundamental Change Permits Holders to Require Us to Repurchase Notes”) or a “make whole fundamental change” (as defined under “—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change”) occurs prior to the close of business on the business day immediately preceding April 15, 2024, regardless of whether a holder has the right to require us to repurchase the notes as described under “—Fundamental Change Permits Holders to Require Us to Repurchase Notes,” or if we are a party to a share exchange event (other than a share exchange event that is solely for the purpose of changing our jurisdiction of organization that (x) does not constitute a fundamental change or a make-whole fundamental change and (y) results in a reclassification, conversion or exchange of outstanding shares of our common stock solely into shares of common stock of the surviving entity) that occurs prior to the close of business on the business day immediately preceding April 15, 2024 (each such fundamental change, make-whole fundamental change or share exchange event, a “corporate event”), all or any portion of a holder’s notes may be surrendered for conversion at any time from or after the effective date of the corporate event until the earlier of (x) 35 trading days after the effective date of such corporate event or, if such corporate event also constitutes a fundamental change, until the close of business on the second business day immediately preceding the related fundamental change repurchase date and (y) the second scheduled trading day immediately preceding the maturity date. We will notify holders, the trustee and the conversion agent (if other than the trustee) as promptly as practicable following the date on which we publicly announce the effective date of such corporate event or the date upon which we receive notice, or otherwise become aware, of the effective date of such corporate event, but in no event later than the actual effective date of such corporate event.

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Conversions on or after April 15, 2024

On or after April 15, 2024, a holder may convert all or any portion of its notes at any time prior to the close of business on the second scheduled trading day immediately preceding the maturity date regardless of the foregoing conditions.

Conversion Procedures

If you hold a beneficial interest in a global note, to convert you must comply with DTC's procedures for converting a beneficial interest in a global note and, if required, pay funds equal to interest payable on the next interest payment date to which you are not entitled and, if required, pay all transfer or similar taxes, if any. As such, if you are a beneficial owner of the notes, you must allow for sufficient time to comply with DTC's procedures if you wish to exercise your conversion rights.

If you hold a certificated note, to convert you must:

- complete and manually sign the conversion notice on the back of the note, or a facsimile of the conversion notice;
- deliver the conversion notice, which is irrevocable, and the note to the conversion agent;
- if required, furnish appropriate endorsements and transfer documents; and
- if required, pay funds equal to the interest payable on the next interest payment date to which you are not entitled.

We will pay any documentary, stamp or similar issue or transfer tax on the issuance of any shares of our common stock upon conversion of the notes, unless the tax is due because the holder requests such shares to be issued in a name other than the holder's name, in which case the holder will pay the tax.

We refer to the date you comply with the relevant procedures for conversion described above as the "conversion date."

If a holder has already delivered a repurchase notice as described under "—Fundamental Change Permits Holders to Require Us to Repurchase Notes" with respect to a note, the holder may not surrender that note for conversion until the holder has withdrawn the repurchase notice in accordance with the relevant provisions of the indenture. If a holder submits its notes for required repurchase, the holder's right to withdraw the fundamental change repurchase notice and convert the notes that are subject to repurchase will terminate at the close of business on the second business day immediately preceding the relevant fundamental change repurchase date.

Settlement upon Conversion

Upon conversion, we may choose to pay or deliver, as the case may be, either cash ("cash settlement"), shares of our common stock ("physical settlement") or a combination of cash and shares of our common stock ("combination settlement"), as described below. We refer to each of these settlement methods as a "settlement method."

All conversions for which the relevant conversion date occurs on or after April 15, 2024 will be settled using the same settlement method. Except for any conversions for which the relevant conversion date occurs on or after April 15, 2024, we will use the same settlement method for all conversions occurring with the same conversion date, but we will not have any obligation to use the same settlement method with respect to conversions with different conversion dates. That is, we may choose for notes converted on one conversion date to settle conversions in physical settlement, and choose for notes converted on another conversion date cash settlement or combination settlement.

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If we elect a settlement method, we will inform the trustee, the conversion agent (if other than the trustee) and the holders so converting through the conversion agent of the settlement method we have selected no later than the close of business on the trading day immediately following the related conversion date (or in the case of any conversions occurring on or after April 15, 2024, no later than the close of business on April 15, 2024). If we do not timely elect a settlement method as described in the preceding sentence, we will no longer have the right to elect cash settlement or physical settlement for such conversion or during such period and we will be deemed to have elected combination settlement in respect of our conversion obligation, as described below, and the specified dollar amount (as defined below) per \$1,000 principal amount of notes will be equal to \$1,000. If we timely elect combination settlement, but we do not timely notify converting holders of the specified dollar amount per \$1,000 principal amount of notes to be converted, such specified dollar amount will be deemed to be \$1,000. It is our current intent and policy to settle conversions of the notes through combination settlement with a specified dollar amount per \$1,000 principal amount of notes of \$1,000.

With respect to any conversion, settlement amounts will be computed as follows:

- if we elect physical settlement, we will deliver to the converting holder in respect of each \$1,000 principal amount of notes being converted a number of shares of common stock equal to the conversion rate in effect on the conversion date;
- if we elect cash settlement, we will pay to the converting holder in respect of each \$1,000 principal amount of notes being converted cash in an amount equal to the sum of the daily conversion values for each of the 40 consecutive trading days during the related observation period; and
- if we elect (or are deemed to have elected) combination settlement, we will pay or deliver, as the case may be, to the converting holder in respect of each \$1,000 principal amount of notes being converted a “settlement amount” equal to the sum of the daily settlement amounts for each of the 40 consecutive trading days during the related observation period.

The “daily settlement amount,” for each of the 40 consecutive trading days during the observation period, will consist of:

- cash equal to the lesser of (i) the maximum cash amount per \$1,000 principal amount of notes being converted to be received upon conversion as specified in the notice specifying our chosen settlement method (or deemed specified as set forth above) (the “specified dollar amount”), if any, divided by 40 (such quotient the “daily measurement value”) and (ii) the daily conversion value; and
- if the daily conversion value exceeds the daily measurement value, a number of shares of our common stock equal to (i) the difference between the daily conversion value and the daily measurement value, divided by (ii) the daily VWAP for such trading day.

The “daily conversion value” means, for each of the 40 consecutive trading days during the observation period, 2.5% of the product of (1) the conversion rate on such trading day and (2) the daily VWAP for such trading day.

The “daily VWAP” means, for each of the 40 consecutive trading days during the relevant observation period, the per share volume-weighted average price as displayed under the heading “Bloomberg VWAP” on Bloomberg page “RGEN <equity> AQR” (or its equivalent successor if such page is not available) in respect of the period from the scheduled open of trading until the scheduled close of trading of the primary trading session on such trading day (or if such volume-weighted average price is unavailable, the market value of one share of our common stock on such trading day determined, using a volume-weighted average method, by a nationally recognized independent investment banking firm retained for this purpose by us). The “daily VWAP” will be determined without regard to after-hours trading or any other trading outside of the regular trading session trading hours.

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The “observation period” with respect to any note surrendered for conversion means:

- if the relevant conversion date occurs prior to April 15, 2024, the 40 consecutive trading day period beginning on, and including, the second trading day immediately succeeding such conversion date; and
- if the relevant conversion date occurs on or after April 15, 2024, the 40 consecutive trading days beginning on, and including, the 41st scheduled trading day immediately preceding the maturity date.

For the purposes of determining amounts due upon conversion only, “trading day” means a day on which (i) there is no “market disruption event” (as defined below) and (ii) trading in our common stock generally occurs on The Nasdaq Global Select Market or, if our common stock is not then listed on The Nasdaq Global Select Market, on the principal other U.S. national or regional securities exchange on which our common stock is then listed or, if our common stock is not then listed on a U.S. national or regional securities exchange, on the principal other market on which our common stock is then listed or admitted for trading. If our common stock is not so listed or admitted for trading, “trading day” means a “business day.”

“Scheduled trading day” means a day that is scheduled to be a trading day on the principal U.S. national or regional securities exchange or market on which our common stock is listed or admitted for trading. If our common stock is not so listed or admitted for trading, “scheduled trading day” means a “business day.”

For the purposes of determining amounts due upon conversion, “market disruption event” means (i) a failure by the primary U.S. national or regional securities exchange or market on which our common stock is listed or admitted for trading to open for trading during its regular trading session or (ii) the occurrence or existence prior to 1:00 p.m., New York City time, on any scheduled trading day for our common stock for more than one half-hour period in the aggregate during regular trading hours of any suspension or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the relevant stock exchange or otherwise) in our common stock or in any options contracts or futures contracts traded on any U.S. exchange relating to our common stock.

Except as described under “—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change” and “—Recapitalizations, Reclassifications and Changes of Our Common Stock,” we will deliver the consideration due in respect of conversion on the second business day immediately following the relevant conversion date, if we elect to satisfy our conversion obligation through physical settlement, or, in the case of any other settlement method, on the second business day immediately following the last trading day of the relevant observation period.

We will pay cash in lieu of delivering any fractional share of common stock issuable upon conversion based on the daily VWAP for the relevant conversion date (in the case of physical settlement) or based on the daily VWAP for the last trading day of the relevant observation period (in the case of combination settlement).

Each conversion will be deemed to have been effected as to any notes surrendered for conversion in accordance with the requirements set forth in the indenture on the conversion date; provided, however, that the person in whose name any shares of our common stock shall be issuable upon such conversion will become the holder of record of such shares as of the close of business on the conversion date (in the case of physical settlement) or the last trading day of the relevant observation period (in the case of combination settlement).

Exchange in Lieu of Conversion

When a holder surrenders its notes for conversion, we may, at our election (an “exchange election”), direct the conversion agent to surrender, on or prior to the close of business on the trading day following the conversion date, such notes to a financial institution designated by us for exchange in lieu of conversion. In order to accept any notes surrendered for conversion, the designated financial institution must agree to timely deliver, in exchange for such notes, the cash, shares of our common stock or combination thereof due upon conversion as

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described above under “—Settlement upon Conversion.” If we make an exchange election, we will, by the close of business on the trading day following the relevant conversion date, notify the holder surrendering its notes for conversion, the trustee and the conversion agent (if other than the trustee) that we have made the exchange election, and we will notify the designated financial institution of the settlement method we have elected with respect to such conversion and the relevant deadline for payment and/or delivery of cash, shares of our common stock or a combination thereof due upon conversion.

Any notes exchanged by the designated financial institution will remain outstanding. If the designated financial institution agrees to accept any notes for exchange but does not timely pay and/or deliver the required cash, shares of our common stock or a combination thereof due upon conversion, or if such designated financial institution does not accept the notes for exchange, we will pay and/or deliver the required cash, shares of our common stock or a combination thereof due upon conversion to the converting holder at the time and in the manner required under the indenture as if we had not made an exchange election.

Our designation of a financial institution to which the notes may be submitted for exchange does not require that financial institution to accept any notes (unless the financial institution has separately made an agreement with us). We may, but will not be obligated to, enter into a separate agreement with any designated financial institution that would compensate it for any such transaction.

Conversion Rate Adjustments

The conversion rate will be adjusted by us as described below, except that we will not make any adjustments to the conversion rate if holders of the notes participate (other than in the case of (x) a share split or share combination or (y) a tender or exchange offer), at the same time and upon the same terms as holders of our common stock and solely as a result of holding the notes, in any of the transactions described below without having to convert their notes as if they held a number of shares of common stock equal to the conversion rate, multiplied by the principal amount (expressed in thousands) of notes held by such holder.

(1) If we exclusively issue shares of our common stock as a dividend or distribution on shares of our common stock, or if we effect a share split or share combination in respect of our common stock, the conversion rate will be adjusted based on the following formula:

$$CR_1 = CR_0 \times \frac{OS_1}{OS_0}$$

where,

- CR₀ = the conversion rate in effect immediately prior to the open of business on the ex-dividend date of such dividend or distribution, or immediately prior to the open of business on the effective date of such share split or share combination, as applicable;
- CR₁ = the conversion rate in effect immediately after the open of business on such ex-dividend date or effective date, as applicable;
- OS₀ = the number of shares of our common stock outstanding immediately prior to the open of business on such ex-dividend date or effective date, as applicable, before giving effect to any such dividend, distribution, share split or share combination, as the case may be; and
- OS₁ = the number of shares of our common stock outstanding immediately after giving effect to such dividend, distribution, share split or share combination, as the case may be.

Any adjustment made under this clause (1) shall become effective immediately after the open of business on the ex-dividend date for such dividend or distribution, or immediately after the open of business on the effective

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date for such share split or share combination, as applicable. If any dividend or distribution of the type described in this clause (1) is declared but not so paid or made, the conversion rate shall be immediately readjusted, effective as of the date our board of directors or a committee thereof determines not to pay such dividend or distribution, to the conversion rate that would then be in effect if such dividend or distribution had not been declared.

(2) If we issue to all or substantially all holders of our common stock any rights, options or warrants (other than a distribution of rights pursuant to a stockholder rights plan) entitling them, for a period of not more than 45 calendar days after the announcement date of such issuance, to subscribe for or purchase shares of our common stock at a price per share that is less than the average of the last reported sale prices of our common stock for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement of such issuance, the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{OS_0 + X}{OS_0 + Y}$$

where,

- CR₀ = the conversion rate in effect immediately prior to the open of business on the ex-dividend date for such issuance;
- CR₁ = the conversion rate in effect immediately after the open of business on such ex-dividend date;
- OS₀ = the number of shares of our common stock outstanding immediately prior to the open of business on such ex-dividend date;
- X = the total number of shares of our common stock issuable pursuant to such rights, options or warrants; and
- Y = the number of shares of our common stock equal to the aggregate price payable to exercise such rights, options or warrants, divided by the average of the last reported sale prices of our common stock over the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement of the issuance of such rights, options or warrants.

Any increase made under this clause (2) will be made successively whenever any such rights, options or warrants are issued and shall become effective immediately after the open of business on the ex-dividend date for such issuance. To the extent that such rights, options or warrants are not exercised prior to their expiration or shares of our common stock are not delivered after the expiration of such rights, options or warrants, the conversion rate shall be decreased to the conversion rate that would then be in effect had the increase with respect to the issuance of such rights, options or warrants been made on the basis of delivery of only the number of shares of our common stock actually delivered. If such rights, options or warrants are not so issued or if no such right, option or warrant is exercised prior to its expiration, the conversion rate shall be decreased to the conversion rate that would then be in effect if such ex-dividend date for such issuance had not occurred.

For the purpose of this clause (2) and for the purpose of the first bullet point under “—Conversion upon Specified Corporate Events—Certain Distributions,” in determining whether any rights, options or warrants entitle the holders of our common stock to subscribe for or purchase shares of our common stock at a price per share that is less than such average of the last reported sale prices of our common stock for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement of such issuance, and in determining the aggregate offering price of such shares of our common stock, there shall be taken into account any consideration received by us for such rights, options or warrants and any amount payable on exercise or conversion thereof, the value of such consideration, if other than cash, to be determined by us.

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(3) If we distribute shares of our capital stock, evidences of our indebtedness, other assets or property of ours or rights, options or warrants to acquire shares of our capital stock or other securities, to all or substantially all holders of our common stock, excluding:

- dividends, distributions or issuances (including share splits) as to which an adjustment was effected (or will be so effected in accordance with the 1% provision (as defined below)) pursuant to clause (1) or (2) above;
- dividends or distributions paid exclusively in cash as to which an adjustment was effected (or will be so effected in accordance with the 1% provision) pursuant to clause (4) below;
- except as otherwise described below, rights issued pursuant to a stockholder rights plan of ours;
- any dividends or distributions of reference property in exchange for our common stock in connection with any reclassification, change, consolidation, merger, conveyance, transfer, sale, lease or other disposition described below under “—Recapitalizations, Reclassifications, and Changes of Our Common Stock;” and
- spin-offs as to which the provisions set forth below in this clause (3) shall apply; then the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{SP_0}{SP_0 - FMV}$$

where,

CR₀ = the conversion rate in effect immediately prior to the open of business on the ex-dividend date for such distribution;

CR₁ = the conversion rate in effect immediately after the open of business on such ex-dividend date;

SP₀ = the average of the last reported sale prices of our common stock over the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the ex-dividend date for such distribution; and

FMV = the fair market value (as determined by us) of the shares of capital stock, evidences of indebtedness, assets, property, rights, options or warrants distributed with respect to each outstanding share of our common stock on the ex-dividend date for such distribution.

Any increase made under the portion of this clause (3) above will become effective immediately after the open of business on the ex-dividend date for such distribution. If such distribution is not so paid or made, the conversion rate shall be decreased to be the conversion rate that would then be in effect if such distribution had not been declared.

Notwithstanding the foregoing, if “FMV” (as defined above) is equal to or greater than “SP₀” (as defined above), in lieu of the foregoing increase, each holder of a note shall receive, in respect of each \$1,000 principal amount thereof, at the same time and upon the same terms as holders of our common stock, the amount and kind of shares of our capital stock, evidences of our indebtedness, other assets or property of ours or rights, options or warrants to acquire shares of our capital stock or other securities that such holder would have received if such holder owned a number of shares of common stock equal to the conversion rate in effect on the ex-dividend date for the distribution.

With respect to an adjustment pursuant to this clause (3) where there has been a payment of a dividend or other distribution on our common stock of shares of capital stock of any class or series, or similar equity interest, of or relating to any subsidiary of ours or other business unit of ours, that are, or, when issued, will be, listed or

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admitted for trading on a U.S. national securities exchange, which we refer to as a “spin-off,” the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{FMV_0 + MP_0}{MP_0}$$

where,

CR₀ = the conversion rate in effect immediately prior to the end of the valuation period (as defined below);

CR₁ = the conversion rate in effect immediately after the end of the valuation period;

FMV₀ = the average of the last reported sale prices of the capital stock or similar equity interest distributed to holders of our common stock applicable to one share of our common stock (determined by reference to the definition of last reported sale price set forth under “— Conversion upon Satisfaction of Sale Price Condition” as if references therein to our common stock were to such capital stock or similar equity interest) over the first 10 consecutive trading day period after, and including, the ex-dividend date of the spin-off (the “valuation period”); and

MP₀ = the average of the last reported sale prices of our common stock over the valuation period.

The increase to the conversion rate under the preceding paragraph will occur at the close of business on the last trading day of the valuation period; provided that (x) in respect of any conversion of notes for which physical settlement is applicable, if the relevant conversion date occurs during the valuation period, the reference to “10” in the preceding paragraph shall be deemed replaced with such lesser number of trading days as have elapsed between the ex-dividend date for such spin-off and such conversion date in determining the conversion rate and (y) in respect of any conversion of notes for which cash settlement or combination settlement is applicable, for any trading day that falls within the relevant observation period for such conversion and within the valuation period, the reference to “10” in the preceding paragraph shall be deemed replaced with such lesser number of trading days as have elapsed between the ex-dividend date for such spin-off and such trading day in determining the conversion rate as of such trading day. If any dividend or distribution that constitutes a spin-off is declared but not so paid or made, the conversion rate shall be immediately decreased, effective as of the date our board of directors or a committee thereof determines not to pay or make such dividend or distribution, to the conversion rate that would then be in effect if such dividend or distribution had not been declared or announced.

(4) If we pay or make any cash dividend or distribution to all or substantially all holders of our common stock, the conversion rate will be adjusted based on the following formula:

$$CR_1 = CR_0 \times \frac{SP_0}{SP_0 - C}$$

where,

CR₀ = the conversion rate in effect immediately prior to the open of business on the ex-dividend date for such dividend or distribution;

CR₁ = the conversion rate in effect immediately after the open of business on the ex-dividend date for such dividend or distribution;

SP₀ = the last reported sale price of our common stock on the trading day immediately preceding the ex-dividend date for such dividend or distribution; and

C = the amount in cash per share we distribute to all or substantially all holders of our common stock.

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Any increase to the conversion rate made under this clause (4) shall become effective immediately after the open of business on the ex-dividend date for such dividend or distribution. If such dividend or distribution is not so paid, the conversion rate shall be decreased, effective as of the date our board of directors or a committee thereof determines not to make or pay such dividend or distribution, to be the conversion rate that would then be in effect if such dividend or distribution had not been declared.

Notwithstanding the foregoing, if “C” (as defined above) is equal to or greater than “SP0” (as defined above), in lieu of the foregoing increase, each holder of a note shall receive, for each \$1,000 principal amount of notes it holds, at the same time and upon the same terms as holders of shares of our common stock, the amount of cash that such holder would have received if such holder owned a number of shares of our common stock equal to the conversion rate in effect on the ex-dividend date for such cash dividend or distribution.

(5) If we or any of our subsidiaries make a payment pursuant to a tender or exchange offer for our common stock that is subject to the then-applicable tender offer rules under the Securities Exchange Act of 1934, as amended, other than an odd-lot tender offer, to the extent that the cash and value of any other consideration included in the payment per share of our common stock exceeds the average of the last reported sale prices of our common stock over the 10 consecutive trading day period commencing on, and including, the trading day next succeeding the last date on which tenders or exchanges may be made pursuant to such tender or exchange offer, the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{AC + (SP_1 \times OS_1)}{OS_0 \times SP_1}$$

where,

- CR₀ = the conversion rate in effect immediately prior to the close of business on the 10th trading day immediately following, and including, the trading day next succeeding the date such tender or exchange offer expires (the “expiration date”);
- CR₁ = the conversion rate in effect immediately after the close of business on the 10th trading day immediately following, and including, the trading day next succeeding the expiration date;
- AC = the aggregate value of all cash and any other consideration (as determined by us) paid or payable for shares purchased or exchanged in such tender or exchange offer;
- OS₀ = the number of shares of our common stock outstanding immediately prior to the expiration date (prior to giving effect to the purchase or exchange of all shares accepted for purchase or exchange in such tender or exchange offer);
- OS₁ = the number of shares of our common stock outstanding immediately after the expiration date (after giving effect to the purchase or exchange of all shares accepted for purchase or exchange in such tender or exchange offer); and
- SP₁ = the average of the last reported sale prices of our common stock over the 10 consecutive trading day period commencing on, and including, the trading day next succeeding the expiration date.

The adjustment to the conversion rate under the preceding paragraph will occur at the close of business on the 10th trading day immediately following, and including, the trading day next succeeding the date such tender or exchange offer expires; *provided* that (x) in respect of any conversion of notes for which physical settlement is applicable, if the relevant conversion date occurs during the 10 trading days immediately following, and including, the trading day next succeeding the expiration date of any tender or exchange offer, references to “10” or “10th” in the preceding paragraph shall be deemed replaced with such lesser number of trading days as have elapsed between the expiration date of such tender or exchange offer and such conversion date in determining the

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conversion rate and (y) in respect of any conversion of notes for which cash settlement or combination settlement is applicable, for any trading day that falls within the relevant observation period for such conversion and within the 10 trading days immediately following, and including, the trading day next succeeding the expiration date of any tender or exchange offer, references to “10” or “10th” in the preceding paragraph shall be deemed replaced with such lesser number of trading days as have elapsed between the expiration date of such tender or exchange offer and such trading day in determining the conversion rate as of such trading day.

In the event that we or one of our subsidiaries is obligated to purchase shares of common stock pursuant to any such tender offer or exchange offer, but we are, or such subsidiary is, permanently prevented by applicable law from consummating any such purchases, or all such purchases are rescinded, then the conversion rate shall be decreased to be the conversion rate that would then be in effect if such tender offer or exchange offer had not been made or had been made only in respect of the purchases that have been consummated and not rescinded.

Notwithstanding the foregoing, if a conversion rate adjustment becomes effective on any ex-dividend date as described above, and a holder that has converted its notes on or after such ex-dividend date and on or prior to the related record date would be treated as the record holder of shares of our common stock as of the related conversion date as described under “—Settlement upon Conversion” based on an adjusted conversion rate for such ex-dividend date, then, notwithstanding the foregoing conversion rate adjustment provisions, the conversion rate adjustment relating to such ex-dividend date will not be made for such converting holder. Instead, such holder will be treated as if such holder were the record owner of the shares of our common stock on an unadjusted basis and participate in the related dividend, distribution or other event giving rise to such adjustment.

Except as stated herein, we will not adjust the conversion rate for the issuance of shares of our common stock or any securities convertible into or exchangeable for shares of our common stock or the right to purchase shares of our common stock or such convertible or exchangeable securities.

As used in this section, “ex-dividend date” means the first date on which the shares of our common stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive the issuance, dividend or distribution in question, from us or, if applicable, from the seller of our common stock on such exchange or market (in the form of due bills or otherwise) as determined by such exchange or market, and “effective date” means the first date on which the shares of our common stock trade on the applicable exchange or in the applicable market, regular way, reflecting the relevant share split or share combination, as applicable.

As used in this section, “record date” means, with respect to any dividend, distribution or other transaction or event in which the holders of our common stock (or other applicable security) have the right to receive any cash, securities or other property or in which our common stock (or such other security) is exchanged for or converted into any combination of cash, securities or other property, the date fixed for determination of holders of our common stock (or such other security) entitled to receive such cash, securities or other property (whether such date is fixed by our board of directors or a committee thereof, statute, contract or otherwise).

Subject to the applicable listing standards of The Nasdaq Global Select Market, we are permitted to increase the conversion rate of the notes by any amount for a period of at least 20 business days if our board of directors or a committee thereof determines that such increase would be in our best interest. Subject to the applicable listing standards of The Nasdaq Global Select Market, we may also (but are not required to) increase the applicable conversion rate to avoid or diminish income tax to holders of our common stock or rights to purchase shares of our common stock in connection with a dividend or distribution of shares (or rights to acquire shares) or similar event.

A holder may, in some circumstances, including a distribution of cash dividends to holders of our shares of common stock, be deemed to have received a distribution subject to U.S. federal income tax as a result of an adjustment or the nonoccurrence of an adjustment to the conversion rate. For a discussion of the U.S. federal income tax treatment of an adjustment to the conversion rate, see “Material U.S. Federal Income Tax Considerations.”

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If we have a rights plan in effect upon any conversion of the notes into common stock, you will receive, in addition to any shares of common stock received in connection with such conversion, the rights under the rights plan. However, if, prior to any conversion, the rights have separated from the shares of common stock in accordance with the provisions of the applicable rights plan, the conversion rate will be adjusted at the time of separation as if we distributed to all or substantially all holders of our common stock, shares of our capital stock, evidences of indebtedness, assets, property, rights, options or warrants as described in clause (3) above, subject to readjustment in the event of the expiration, termination or redemption of such rights. We do not currently have a stockholder rights plan in effect.

Except as stated herein, we will not adjust the conversion rate for the issuance of shares of our common stock or any securities convertible into or exchangeable for shares of our common stock or the right to purchase shares of our common stock or such convertible or exchangeable securities. For example, the conversion rate will not be adjusted:

- upon the issuance of any shares of our common stock pursuant to any present or future plan providing for the reinvestment of dividends or interest payable on our securities and the investment of additional optional amounts in shares of our common stock under any plan;
- upon the issuance of any shares of our common stock or options or rights to purchase those shares pursuant to any present or future employee, director or consultant benefit plan or program of or assumed by us or any of our subsidiaries;
- upon the issuance of any shares of our common stock pursuant to any option, warrant, right or exercisable, exchangeable or convertible security not described in the preceding bullet and outstanding as of the date the notes were first issued;
- upon the repurchase of any shares of our common stock pursuant to an open-market share repurchase program or other buy-back transaction (including, without limitation, through any structured or derivative transactions such as accelerated share repurchase derivatives) that is not a tender offer or exchange offer of the nature described under clause (5) above;
- solely for a change in the par value of our common stock; or
- for accrued and unpaid interest, if any.

If an adjustment to the conversion rate otherwise required by the provisions described above would result in a change of less than 1% to the conversion rate, then, notwithstanding the foregoing, we may, at our election, defer and carry forward such adjustment, except that all such deferred adjustments must be given effect immediately upon the earliest to occur of the following: (i) when all such deferred adjustments would result in an aggregate change of at least 1% to the conversion rate; (ii) the conversion date of (if physical settlement applies to such conversion), or each trading day of the applicable observation period for (if cash or combination settlement applies to such conversion), any note; (iii) the date a fundamental change or make-whole fundamental change occurs; and (iv) April 15, 2024. The provisions described in the preceding sentence are referred to herein as the “1% provision.”

Adjustments to the conversion rate will be calculated to the nearest 1/10,000th of a share.

Recapitalizations, Reclassifications and Changes of Our Common Stock

In the case of:

- any recapitalization, reclassification or change of our common stock (other than changes resulting from a share split, share combination or change in par value);
- any consolidation, merger or combination involving us;

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- any sale, lease or other transfer to a third party of the consolidated assets of ours and our subsidiaries substantially as an entirety; or
- any statutory share exchange,

in each case, as a result of which our common stock would be converted into, or exchanged for, stock, other securities, other property or assets (including cash or any combination thereof) (any such event, a “share exchange event”), then, at and after the effective time of the share exchange event, the right to convert each \$1,000 principal amount of notes will be changed into a right to convert such principal amount of notes into the kind and amount of shares of stock, other securities or other property or assets (including cash or any combination thereof) that a holder of a number of shares of common stock equal to the conversion rate immediately prior to such share exchange event would have owned or been entitled to receive (the “reference property”) upon the occurrence of such share exchange event. However, at and after the effective time of the share exchange event, (i) we or the successor or acquiring company, as the case may be, will continue to have the right to determine the form of consideration to be paid or delivered, as the case may be, upon conversion of notes, as set forth under “—Settlement upon Conversion” and (ii)(x) any amount payable in cash upon conversion of the notes as set forth under “—Settlement upon Conversion” will continue to be payable in cash, (y) any shares of our common stock that we would have been required to deliver upon conversion of the notes as set forth under “—Settlement upon Conversion” will instead be deliverable in the amount and type of reference property that a holder of that number of shares of our common stock would have received in such share exchange event and (z) the daily VWAP and the last reported sale price, as applicable, will be calculated based on the value of a unit of reference property that a holder of one share of our common stock would have received in such share exchange event. If the share exchange event causes our common stock to be converted into, or exchanged for, the right to receive more than a single type of consideration (determined based in part upon any form of stockholder election), the reference property into which the notes will be convertible will be deemed to be the weighted average of the types and amounts of consideration received by the holders of our common stock. We will notify holders, the trustee and the conversion agent (if other than the trustee) of the weighted average as soon as reasonably practicable after such determination is made. If the holders of our common stock receive only cash in such share exchange event, then for all conversions that occur after the effective date of such share exchange event (i) the consideration due upon conversion of each \$1,000 principal amount of notes shall be solely cash in an amount equal to the conversion rate in effect on the conversion date (as may be increased as described under “—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change”), multiplied by the price paid per share of common stock in such share exchange event and (ii) we will satisfy our conversion obligation by paying such cash amount to converting holders on the second business day immediately following the conversion date.

If the reference property in respect of any share exchange event includes, in whole or in part, shares of common equity or securities convertible into or exchangeable for shares of common equity, the supplemental indenture providing that the notes will be convertible into reference property will also provide for anti-dilution and other adjustments that are as nearly equivalent as possible to the adjustments described under “—Conversion Rate Adjustments” above with respect to the portion of reference property consisting of such common equity or securities convertible into or exchangeable for shares of common equity. If the reference property in respect of any such share exchange event includes shares of stock, securities or other property or assets (other than cash and/or cash equivalents) of a company other than us or the successor or purchasing company, as the case may be, in such share exchange event, such other company will also execute such supplemental indenture, and such supplemental indenture will contain such additional provisions to protect the interests of the holders, including the right of holders to require us to repurchase their notes upon a fundamental change as described under “—Fundamental Change Permits Holders to Require Us to Repurchase Notes” below, as the board of directors determines in good faith are appropriate by reason of the foregoing. We will agree in the indenture not to become a party to any such share exchange event unless its terms are consistent with the foregoing.

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Adjustments of Prices

Whenever any provision of the indenture requires us to calculate the last reported sale prices, the daily VWAPs, the daily conversion values or the daily settlement amounts over a span of multiple days (including, without limitation, an observation period and the period, if any, for determining the “stock price” for purposes of a make-whole fundamental change), we will make appropriate adjustments (to the extent no corresponding adjustment is otherwise made pursuant to the provisions described under “—Conversion Rate Adjustments” above) to each to account for any adjustment to the conversion rate that becomes effective, or any event requiring an adjustment to the conversion rate where the ex-dividend date, effective date or expiration date, as the case may be, of the event occurs at any time during the period when such last reported sale prices, daily VWAPs, daily conversion values or daily settlement amounts are to be calculated.

Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change

If the “effective date” (as defined below) of a “make-whole fundamental change” (as defined below) occurs prior to the maturity date of the notes, and a holder elects to convert its notes in connection with such make-whole fundamental change, we will, under certain circumstances, increase the conversion rate for the notes so surrendered for conversion by a number of additional shares of common stock (the “additional shares”), as described below. A “make-whole fundamental change” means any transaction or event that constitutes a fundamental change defined below in clause (1), (2) or (4) of the definition of “fundamental change” under “—Fundamental Change Permits Holders to Requires Us to Repurchase Notes” below, after giving effect to any exceptions or exclusions from such definition, but without regard to the proviso in clause (2) of the definition thereof. A conversion of notes will be deemed for these purposes to be “in connection with” such make-whole fundamental change if the relevant conversion date occurs during the period from, and including, the effective date of the make-whole fundamental change up to, and including, the close of business on the second business day immediately prior to the related fundamental change repurchase date (or, in the case of a make-whole fundamental change that would have been a fundamental change but for the proviso in clause (2) of the definition thereof, the 35th trading day immediately following the effective date of such make-whole fundamental change) (such period, the “make-whole fundamental change period”).

Upon surrender of notes for conversion in connection with a make-whole fundamental change, we will, at our option, satisfy our conversion obligation by physical settlement, cash settlement or combination settlement, based on the conversion rate as increased to reflect the additional shares pursuant to the table set forth below, as described under “—Conversion Rights—Settlement upon Conversion.” However, if the consideration for our common stock in any make-whole fundamental change described in clause (2) of the definition of fundamental change is composed entirely of cash, for any conversion of notes following the effective date of such make-whole fundamental change, the conversion obligation will be calculated based solely on the “stock price” (as defined below) for the transaction and will be deemed to be an amount of cash per \$1,000 principal amount of converted notes equal to the conversion rate (including any increase to reflect the additional shares as described in this section), multiplied by such stock price. In such event, the conversion obligation will be determined and paid to holders in cash on the second business day following the conversion date. We will notify holders, the trustee and the conversion agent (if other than the trustee) of the effective date of any make-whole fundamental change no later than five business days after such effective date.

The number of additional shares, if any, by which the conversion rate will be increased will be determined by reference to the table below, based on the date on which the make-whole fundamental change occurs or becomes effective (the “effective date”) and the price paid (or deemed to be paid) per share of our common stock in the make-whole fundamental change (the “stock price”) in the manner set forth in this paragraph. If the holders of our common stock receive in exchange for their common stock only cash in a make-whole fundamental change described in clause (2) of the definition of fundamental change, the stock price will be the cash amount paid per share. Otherwise, the stock price will be the average of the last reported sale prices of our common stock over the five consecutive trading day period ending on, and including, the trading day immediately preceding the effective date of the make-whole fundamental change.

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The stock prices set forth in the column headings of the table below will be adjusted as of any date on which the conversion rate for the notes is otherwise adjusted. The adjusted stock prices will equal the stock prices immediately prior to such adjustment, *multiplied* by a fraction, the numerator of which is the conversion rate immediately prior to the adjustment giving rise to the stock price adjustment and the denominator of which is the conversion rate as so adjusted. The number of additional shares as set forth in the table below will be adjusted in the same manner and at the same time as the conversion rate as set forth under “—Conversion Rate Adjustments.”

The following table sets forth the number of additional shares by which the conversion rate will be increased per \$1,000 principal amount of notes for each stock price and effective date set forth below:

Effective Date	Stock Price											
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
July , 2019												
July 15, 2020												
July 15, 2021												
July 15, 2022												
July 15, 2023												
July 15, 2024												

The exact stock prices and effective dates may not be set forth in the table above, in which case:

- if the stock price is between two stock prices in the table or the effective date is between two effective dates in the table, the number of additional shares by which the conversion rate will be increased will be determined by a straight-line interpolation between the number of additional shares set forth for the higher and lower stock prices and the earlier and later effective dates based on a 365-day year.
- if the stock price is greater than \$ _____ per share (subject to adjustment in the same manner as the stock prices set forth in the column headings of the table above), no additional shares will be added to the conversion rate.
- if the stock price is less than \$ _____ per share (subject to adjustment in the same manner as the stock prices set forth in the column headings of the table above), no additional shares will be added to the conversion rate.

Notwithstanding the foregoing, in no event will the conversion rate per \$1,000 principal amount of notes exceed _____ shares of common stock, subject to adjustment in the same manner as the conversion rate as set forth under “—Conversion Rate Adjustments.”

Our obligation to increase the conversion rate for notes converted in connection with a make-whole fundamental change could be considered a penalty, in which case the enforceability thereof would be subject to general principles of reasonableness and equitable remedies.

Fundamental Change Permits Holders to Require Us to Repurchase Notes

If a “fundamental change” (as defined below in this section) occurs at any time prior to the maturity date, holders will have the right, at their option, to require us to repurchase for cash all of their notes, or any portion of the principal amount thereof that is equal to \$1,000 or an integral multiple of \$1,000. The date of such repurchase (the “fundamental change repurchase date”) will be a date specified by us that is not less than 20 business days or more than 35 business days following the date of our fundamental change notice as described below. The fundamental change repurchase date shall be subject to postponement in order to allow us to comply with applicable law as a result of changes to such applicable law occurring after the date of the indenture.

The price for such repurchase (the “fundamental change repurchase price”) we are required to pay will be equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest to, but

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excluding, the fundamental change repurchase date (unless the fundamental change repurchase date falls after a regular record date but on or prior to the interest payment date to which such regular record date relates, in which case we will instead pay the full amount of accrued and unpaid interest to the holder of record as of the close of business on such regular record date, and the fundamental change repurchase price will be equal to 100% of the principal amount of the notes to be repurchased).

A “fundamental change” will be deemed to have occurred at the time after the notes are originally issued if any of the following occurs prior to the maturity date:

(1) a “person” or “group” within the meaning of Section 13(d) of the Exchange Act, other than us, our subsidiaries and our and their employee benefit plans, has become the direct or indirect “beneficial owner,” as defined in Rule 13d-3 under the Exchange Act, of our common equity representing more than 50% of the voting power of our common equity and has filed a Schedule TO (or any successor schedule, form or report) or any schedule, form or report under the Exchange Act disclosing such fact; *provided*, that no person or group shall be deemed to be the beneficial owner of any securities tendered pursuant to a tender or exchange offer made by or on behalf of such “person” or “group” until such tendered securities are accepted for purchase or exchange under such offer; *provided further* that no person or group will be deemed to be a beneficial owner of our common equity to the extent that beneficial ownership thereof arises solely as a result of the entering into of a support or similar voting agreement (with or without granting a proxy) in respect of a transaction described in clause (2) of this definition;

(2) the consummation of (A) any recapitalization, reclassification or change of our common stock (other than changes resulting from a subdivision, combination or changes solely in par value) as a result of which our common stock would be converted into, or exchanged for, stock, other securities, other property or assets; (B) any share exchange, consolidation or merger involving us pursuant to which our common stock will be converted into cash, securities or other property or assets; or (C) any sale, lease or other transfer in one transaction or a series of transactions of all or substantially all of the consolidated assets of us and our subsidiaries, taken as a whole, to any person other than one of our subsidiaries; provided, however, that a transaction described in clause (A) or (B) in which the holders of all classes of our common equity immediately prior to such transaction own, directly or indirectly, more than 50% of all classes of common equity of the continuing or surviving company or transferee or the parent thereof immediately after such transaction in substantially the same proportions (relative to each other) as such ownership immediately prior to such transaction shall not be a fundamental change pursuant to this clause (2);

(3) our stockholders approve any plan or proposal for our liquidation or dissolution; or

(4) our common stock (or other common stock, American depositary receipts, ordinary shares or other common equity interests underlying the notes) ceases to be listed or quoted on any of The New York Stock Exchange, The Nasdaq Global Select Market or The Nasdaq Global Market (or any of their respective successors).

A transaction or transactions described in clause (2) above will not constitute a fundamental change, however, if at least 90% of the consideration received or to be received by our common stockholders, excluding cash payments for fractional shares and cash payments made in respect of dissenters’ statutory appraisal rights, in connection with such transaction or transactions consists of shares of common stock, American depositary receipts, ordinary shares or other common equity interests, in each case, that are listed or quoted on any of The New York Stock Exchange, The Nasdaq Global Select Market or The Nasdaq Global Market (or any of their respective successors) or will be so listed or quoted when issued or exchanged in connection with such transaction or transactions and as a result of such transaction or transactions such consideration, excluding cash payments for fractional shares and cash payments made in respect of dissenters’ statutory appraisal rights (subject to the provisions set forth above under “—Conversion Rights—Settlement upon Conversion”), becomes reference property for the notes.

If any transaction in which our common stock is replaced by the securities of another entity occurs, following completion of any related make-whole fundamental change period (or, in the case of a transaction that

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would have been a fundamental change or a make-whole fundamental change but for the immediately preceding paragraph, following the effective date of such transaction), references to us in the definition of “fundamental change” above shall instead be references to such other entity.

For purposes of the definition of “fundamental change” above, any transaction that constitutes a fundamental change pursuant to both clause (1) and clause (2) of such definition (without giving effect to the proviso to clause (2)) shall be deemed a fundamental change solely under clause (2) of such definition (subject to the proviso to clause (2)).

On or before the 20th business day after the occurrence of a fundamental change, we will provide to all holders of the notes and the trustee and paying agent a written notice of the occurrence of the fundamental change and of the resulting repurchase right. Such notice shall state, among other things:

- the events causing a fundamental change;
- the effective date of the fundamental change;
- the last date on which a holder may exercise the repurchase right;
- the fundamental change repurchase price;
- the fundamental change repurchase date;
- the name and address of the paying agent and the conversion agent, if applicable;
- if applicable, the conversion rate and any adjustments to the conversion rate;
- that the notes with respect to which a fundamental change repurchase notice has been delivered by a holder may be converted only if the holder validly withdraws the fundamental change repurchase notice in accordance with the terms of the indenture; and
- the procedures that holders must follow to require us to repurchase their notes.

If notes are held in certificated form, to exercise the fundamental change repurchase right, you must deliver, on or before the close of business on the second business day immediately preceding the fundamental change repurchase date, the notes to be repurchased, duly endorsed for transfer, together with a written repurchase notice, to the paying agent. Each repurchase notice must state:

- if certificated, the certificate numbers of your notes to be delivered for repurchase;
- the portion of the principal amount of notes to be repurchased, which must be \$1,000 or an integral multiple thereof; and
- that the notes are to be repurchased by us pursuant to the applicable provisions of the notes and the indenture.

If the notes are not in certificated form, such repurchase notice must comply with applicable DTC procedures.

Holders may withdraw any repurchase notice (in whole or in part) by a written notice of withdrawal received by the paying agent prior to the close of business on the second business day immediately preceding the fundamental change repurchase date. The notice of withdrawal shall state:

- the principal amount of the withdrawn notes, which must be \$1,000 aggregate principal amount or an integral multiple thereof;
- if certificated notes have been issued, the certificate numbers of the withdrawn notes; and
- the principal amount, if any, which remains subject to the repurchase notice, which must be \$1,000 aggregate principal amount or an integral multiple thereof.

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If the notes are not in certificated form, such notice of withdrawal must comply with applicable DTC procedures.

We will be required to repurchase the notes on the fundamental change repurchase date, subject to postponement to comply with applicable law. Holders who have exercised the repurchase right will receive payment of the fundamental change repurchase price on the later of (i) the fundamental change repurchase date and (ii) the time of book-entry transfer or the delivery of the notes. If the paying agent holds money sufficient to pay the fundamental change repurchase price of the notes on the fundamental change repurchase date, then, with respect to the notes that have been properly surrendered for repurchase and have not been validly withdrawn:

- the notes will cease to be outstanding and interest will cease to accrue (whether or not book-entry transfer of the notes is made or whether or not the notes are delivered to the paying agent); and
- all other rights of the holder will terminate (other than the right to receive the fundamental change repurchase price).

In connection with any repurchase offer pursuant to a fundamental change repurchase notice, we will, if required:

- comply with the provisions of any tender offer rules under the Exchange Act that may then be applicable;
- file a Schedule TO or any other required schedule under the Exchange Act; and
- otherwise comply in all material respects with all federal and state securities laws in connection with any offer by us to repurchase the notes,

in each case, so as to permit the rights and obligations under this “—Fundamental Change Permits Holders to Require Us to Repurchase Notes” to be exercised in the time and in the manner specified in the indenture.

No notes may be repurchased by us on any date at the option of holders upon a fundamental change if the principal amount of the notes has been accelerated, and such acceleration has not been rescinded, on or prior to such date (except in the case of an acceleration resulting from a default by us in the payment of the fundamental change repurchase price with respect to such notes).

Notwithstanding anything to the contrary herein, we will not be required to purchase, or to make an offer to purchase, the notes upon a fundamental change if a third party makes such an offer in the same manner, at the same time and otherwise in compliance with the requirements for an offer made by us as set forth in the indenture, and such third party purchases all notes properly surrendered and not validly withdrawn under its offer in the same manner, at the same time and otherwise in compliance with the requirements for an offer made by us as set forth in the indenture.

The repurchase rights of the holders upon a fundamental change could discourage a potential acquirer of us. The fundamental change repurchase feature, however, is not the result of management’s knowledge of any specific effort to obtain control of us by any means or part of a plan by management to adopt a series of anti-takeover provisions.

To the extent that the provisions of any securities laws or regulations conflict with the provisions of the indenture relating to our obligations to purchase the notes upon a fundamental change, we will comply with the applicable securities laws and regulations and will not be deemed to have breached our obligations under such provisions of the indenture by virtue of such conflict.

The term “fundamental change” is limited to specified transactions and may not include other events that might adversely affect our financial condition. In addition, the requirement that we offer to repurchase the notes upon a fundamental change may not protect holders in the event of a highly leveraged transaction, reorganization, merger or similar transaction involving us.

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Furthermore, holders may not be entitled to require us to repurchase their notes upon a fundamental change or be entitled to an increase in the conversion rate upon conversion as described under “Conversion Rights—Increase in Conversion Rate upon Conversion upon a Make-Whole Fundamental Change” in circumstances involving a significant change in the composition of our board, unless such change is in connection with a fundamental change or make-whole fundamental change, as the case may be, as described herein.

The definition of fundamental change includes a phrase relating to the sale, lease or other transfer of “all or substantially all” of our consolidated assets. There is no precise, established definition of the phrase “substantially all” under applicable law. Accordingly, the ability of a holder of the notes to require us to repurchase its notes as a result of the sale, lease or other transfer of less than all of our assets may be uncertain.

If a fundamental change were to occur, we may not have enough funds to pay the fundamental change repurchase price. Our ability to repurchase the notes for cash may be limited by restrictions on our ability to obtain funds for such repurchase through dividends from our subsidiaries, the terms of our then existing borrowing arrangements or otherwise. See “Risk Factors—Risks Related to this Offering and the Notes—We may not have the ability to raise the funds necessary to make periodic interest payments, pay the principal amount at maturity, settle conversions of the notes in cash (in whole or in part) or to repurchase the notes upon a fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion of the notes or to repurchase the notes.” If we fail to repurchase notes when required following a fundamental change, we will be in default under the indenture. In addition, we may in the future incur other indebtedness with similar change in control provisions permitting holders of such other indebtedness to accelerate the relevant indebtedness or require us to repurchase our indebtedness upon the occurrence of similar events or on some specific dates.

Consolidation, Merger and Sale of Assets

The indenture will provide that we will not consolidate with or merge with or into, or sell, convey, transfer or lease our consolidated assets substantially as an entirety to, another person, unless (i) the resulting, surviving or transferee person (if not us) is a corporation organized and existing under the laws of the United States of America, any State thereof or the District of Columbia, and such corporation (if not us) expressly assumes by supplemental indenture all of our obligations under the notes and the indenture; and (ii) immediately after giving effect to such transaction, no default or event of default has occurred and is continuing under the indenture. Upon any such consolidation, merger or sale, conveyance, transfer or lease, the resulting, surviving or transferee corporation (if not us) shall succeed to, and may exercise every right and power of, ours under the notes and the indenture, and we will be discharged from our obligations under the notes and the indenture, except in the case of any such lease.

Although these types of transactions will be permitted under the indenture, certain of the foregoing transactions could constitute a fundamental change permitting each holder to require us to repurchase the notes of such holder as described above.

This “—Consolidation, Merger and Sale of Assets” section replaces the section of the accompanying prospectus under the heading “Description of Debt Securities—Merger, Consolidation or Sale of Assets” in its entirety.

Events of Default

Each of the following is an event of default with respect to the notes:

- (1) default in any payment of interest on any note when due and payable and the default continues for a period of 30 days;
- (2) default in the payment of principal of any note when due and payable at its stated maturity, upon any required repurchase, upon declaration of acceleration or otherwise;

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(3) our failure to comply with our obligation to convert the notes in accordance with the indenture upon exercise of a holder's conversion right, and such failure continues for a period of five business days;

(4) our failure to give (i) a fundamental change notice as described under “—Fundamental Change Permits Holders to Require Us to Repurchase Notes” when due, and such failure continues for a period of three business days, or (ii) notice of a specified corporate transaction as described under “—Conversion Rights—Conversion upon Specified Corporate Events,” when due;

(5) our failure to comply with our obligations under “—Consolidation, Merger and Sale of Assets;”

(6) our failure for 60 days after written notice from the trustee or the holders of at least 25% in principal amount of the notes then outstanding has been received by us to comply with any of our other agreements contained in the notes or the indenture;

(7) default by us or any of our significant subsidiaries (as defined below) with respect to any mortgage, agreement or other instrument under which there may be outstanding, or by which there may be secured or evidenced, any indebtedness for money borrowed in excess of \$40.0 million (or its foreign currency equivalent) in the aggregate of ours and/or of any such significant subsidiary, whether such indebtedness now exists or shall hereafter be created (i) resulting in such indebtedness becoming or being declared due and payable prior to its stated maturity or (ii) constituting a failure to pay the principal of any such indebtedness when due and payable (after the expiration of all applicable grace periods) at its stated maturity, upon required repurchase, upon declaration of acceleration or otherwise, in each case, after the expiration of any applicable grace period, if such acceleration shall not have been rescinded or annulled or such failure to pay or default shall not have been cured or waived, or such indebtedness shall not have been paid or discharged, as the case may be, within 30 days after written notice to us by the trustee or to us and the trustee by holders of at least 25% in aggregate principal amount of notes then outstanding in accordance with the indenture; or

(8) certain events of bankruptcy, insolvency, or reorganization of us or any of our significant subsidiaries.

For purposes of clauses (7) and (8), the term “significant subsidiary” is a subsidiary that meets the definition of “significant subsidiary” as defined in Article 1, Rule 1-02 of Regulation S-X promulgated under the Exchange Act (as in effect on the date of the indenture) provided that, in the case of a subsidiary that meets the criteria of clause (3) of the definition thereof but not clause (1) or (2) thereof, such subsidiary shall not be deemed to be a significant subsidiary unless the subsidiary's income from continuing operations before income taxes, exclusive of amounts attributable to any non-controlling interests, for the last completed fiscal year prior to the date of such determination exceeds \$20.0 million.

If an event of default occurs and is continuing (other than an event of default with respect to us described in clause (8) above), the trustee by notice to us, or the holders of at least 25% in principal amount of the outstanding notes by notice to us and the trustee, may, and the trustee at the request of such holders of at least 25% in principal amount of the outstanding notes shall, declare 100% of the principal amount of and accrued and unpaid interest, if any, on all the notes to be due and payable. Upon such a declaration of acceleration, such principal and accrued and unpaid interest, if any, will be due and payable immediately. In case of any event of default described in clause (8) above with respect to us, 100% of the principal of and accrued and unpaid interest on the notes will automatically become due and payable.

Notwithstanding the foregoing, the indenture will provide that, to the extent we elect, the sole remedy for an event of default relating to (i) our failure to file with the trustee pursuant to Section 314(a)(1) of the Trust Indenture Act any documents or reports that we are required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act or (ii) our failure to comply with our obligations as set forth under “—Reports” below, will (x) for the first 180 days after the occurrence of such an event of default (beginning on, and including, the date on which such an event of default first occurs), consist exclusively of the right to receive additional interest on the

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notes at a rate equal to 0.25% per annum of the principal amount of notes outstanding for each day during such 180-day period on which such event of default is continuing and (y) for the period from, and including, the 181st day after the occurrence of such an event of default to, and including, the 360th day after the occurrence of such an event of default, consist exclusively of the right to receive additional interest on the notes at a rate equal to 0.50% per annum of the principal amount of notes outstanding for each day during such additional 180-day period on which such event of default is continuing. In no event will the additional interest described in this paragraph accrue at a rate in excess of 0.25% per annum during the initial 180-day period or 0.50% per annum during the subsequent 180-day period pursuant to the indenture, regardless of the number of events or circumstances giving rise to the requirement to pay such additional interest.

If we so elect, such additional interest will be payable in the same manner and on the same dates as the stated interest payable on the notes. On the 361st day after such event of default (if the event of default relating to the reporting obligations is not cured or waived prior to such 361st day), the notes will be subject to acceleration as provided above. The provisions of the indenture described in this paragraph will not affect the rights of holders of notes in the event of the occurrence of any other event of default. In the event we do not elect to pay the additional interest following an event of default in accordance with this paragraph or we elected to make such payment but do not pay the additional interest when due, the notes will be immediately subject to acceleration as provided above.

In order to elect to pay the additional interest as the sole remedy during the first 360 days after the occurrence of an event of default relating to the failure to comply with the reporting obligations in accordance with the immediately preceding two paragraphs, we must notify all holders of notes, the trustee and the paying agent of such election prior to the beginning of such 360-day period. Upon our failure to timely give such notice, the notes will be immediately subject to acceleration as provided above.

If any portion of the amount payable on any note upon acceleration is considered by a court to be unearned interest (through the allocation of the value of the instrument to the embedded warrant or otherwise), the court could disallow recovery of any such portion.

The holders of a majority in principal amount of the outstanding notes may waive all past defaults (except with respect to nonpayment of principal or interest or with respect to the failure to deliver the consideration due upon conversion) and rescind any such acceleration with respect to the notes and its consequences if (i) rescission would not conflict with any judgment or decree of a court of competent jurisdiction and (ii) all existing events of default, other than the nonpayment of the principal of and interest on the notes that have become due solely by such declaration of acceleration, have been cured or waived.

Each holder shall have the right to receive payment or delivery, as the case may be, of:

- the principal (including the fundamental change repurchase price, if applicable) of;
- accrued and unpaid interest, if any, on; and
- the consideration due upon conversion of,

its notes, on or after the respective due dates expressed or provided for in the indenture, or to institute suit for the enforcement of any such payment or delivery, as the case may be, and such right to receive such payment or delivery, as the case may be, on or after such respective dates shall not be impaired or affected without the consent of such holder.

Subject to the provisions of the indenture relating to the duties of the trustee, if an event of default occurs and is continuing, the trustee will be under no obligation to exercise any of the rights or powers under the indenture at the request or direction of any of the holders or to institute, conduct or defend any litigation unless such holders have offered, and if requested, provided to the trustee indemnity or security satisfactory to it against

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any loss, liability or expense. Except to enforce the right to receive payment of principal or interest when due, or the right to receive payment or delivery of the consideration due upon conversion, no holder may pursue any remedy with respect to the indenture or the notes unless:

- (1) such holder has previously given the trustee written notice that an event of default with respect to the notes is continuing;
- (2) holders of at least 25% in aggregate principal amount of the outstanding notes have requested the trustee to pursue the remedy;
- (3) such holders have offered, and if requested, provided, the trustee security or indemnity satisfactory to it against any loss, liability or expense;
- (4) the trustee has not complied with such request within 60 days after the receipt of the request and the offer of such security or indemnity; and
- (5) the holders of a majority in principal amount of the outstanding notes have not given the trustee a direction that, in the opinion of the trustee, is inconsistent with such request within such 60-day period.

Subject to certain restrictions, the holders of a majority in principal amount of the outstanding notes are given the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or of exercising any trust or power conferred on the trustee.

The indenture will provide that in the event an event of default has occurred and is continuing under such indenture, the trustee will be required in the exercise of its powers to use the degree of care that a prudent person would use in the conduct of its own affairs. The trustee, however, may refuse to follow any direction that conflicts with law or the indenture or that the trustee determines is unduly prejudicial to the rights of any other holder (it being understood that the trustee does not have an affirmative duty to ascertain whether or not any actions are unduly prejudicial to such holders) or that would involve the trustee in personal liability. Prior to taking any action under the indenture, the trustee will be entitled to indemnification or security satisfactory to it against any loss, liability or expense caused by taking or not taking such action.

The indenture will provide that if a default occurs and is continuing and is known to a responsible officer of the trustee, the trustee must send to each holder notice of the default within 90 days after it occurs. Except in the case of a default in the payment of principal or of interest on any note or a default in the payment or delivery of the consideration due upon conversion, the trustee may withhold notice if and so long as it in good faith determines that withholding notice is in the interests of the holders. In addition, we are required to deliver to the trustee, within 120 days after the end of each fiscal year, a certificate indicating whether the signers thereof know of any default that occurred during the previous year. We are also required to deliver to the trustee, within 30 days after becoming aware of the occurrence thereof, an officer's certificate setting forth the details of any events which would constitute a default or event of default under the indenture, their status and what action we are taking or proposing to take in respect thereof; provided that we are not required to deliver such notice if such default has been cured within the applicable grace period (if any) provided in the indenture.

Payments of the fundamental change repurchase price, principal and interest that are not made when due will accrue interest per annum at the then-applicable interest rate from the required payment date.

This "—Events of Default" section replaces the section of the accompanying prospectus under the heading "Description of Debt Securities—Events of Default, Notice and Waiver" in its entirety.

Modification and Amendment

Subject to certain exceptions, the indenture or the notes may be amended with the consent of the holders of at least a majority in principal amount of the notes then outstanding (including without limitation, consents

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obtained in connection with a repurchase of, or tender or exchange offer for, notes) and, subject to certain exceptions, any past default or compliance with any provisions may be waived with the consent of the holders of a majority in principal amount of the notes then outstanding (including, without limitation, consents obtained in connection with a repurchase of, or tender or exchange offer for, notes). However, without the consent of each holder of an outstanding note affected, no amendment may, among other things:

- (1) reduce the principal amount of notes whose holders must consent to an amendment;
- (2) reduce the rate of or extend the stated time for payment of interest on any note;
- (3) reduce the principal of or extend the stated maturity of any note;
- (4) make any change that adversely affects the conversion rights of any note other than as required by the indenture;
- (5) reduce the fundamental change repurchase price of any note or amend or modify in any manner adverse to the holders of notes our obligation to make such payment, whether through an amendment or waiver of provisions in the covenants, definitions or otherwise;
- (6) make any note payable in currency, or at a place of payment, other than that stated in the note;
- (7) change the ranking of the notes;
- (8) impair the right of any holder to receive payment of principal and interest on such holder's notes on or after the due dates therefor or to institute suit for the enforcement of any payment on or with respect to such holder's notes; or
- (9) make any change in the amendment provisions that require each holder's consent or in the waiver provisions.

Without the consent of any holder, we and the trustee may amend the indenture and/or the notes to:

- (1) cure any ambiguity, omission, defect or inconsistency;
- (2) provide for the assumption by a successor corporation of our obligations under the indenture and the notes as described above under “—Consolidation, Merger and Sale of Assets”;
- (3) add guarantees with respect to the notes;
- (4) secure the notes;
- (5) add to our covenants or events of default for the benefit of the holders or surrender any right or power conferred upon us under the indenture;
- (6) make any change that does not adversely affect the rights of any holder under the indenture or the notes;
- (7) in connection with any transaction described under “—Conversion Rights—Recapitalizations, Reclassifications and Changes of Our Common Stock” above, provide that the notes are convertible into reference property, subject to the provisions described under “—Conversion Rights—Settlement upon Conversion” above, and make certain related changes to the terms of the notes to the extent expressly required by the indenture;
- (8) increase the conversion rate as provided in the indenture;
- (9) provide for the issuance of additional notes in accordance with the limitations set forth in the indenture;
- (10) comply with any requirement of the SEC in connection with the qualification of the indenture under the Trust Indenture Act;
- (11) provide for the acceptance of appointment by a successor trustee or facilitate the administration of the trusts under the indenture by more than one trustee;

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(12) irrevocably elect a settlement method or a specified dollar amount, or eliminate our right to elect a settlement method; or

(13) conform the provisions of the indenture to the “Description of Notes” in the preliminary prospectus supplement, as supplemented by the related pricing term sheet as evidenced in an officer’s certificate.

Holders do not need to approve the particular form of any proposed amendment. It will be sufficient if such holders approve the substance of the proposed amendment. After an amendment under the indenture or the notes becomes effective, we are required to mail to the holders a notice briefly describing such amendment. However, the failure to give such notice to all the holders, or any defect in the notice, will not impair or affect the validity of the amendment.

This “—Modification and Amendment” section replaces the section of the accompanying prospectus under the heading “Description of Debt Securities—Modification of the Indentures” in its entirety.

Discharge

We may satisfy and discharge our obligations under the indenture and the notes by delivering to the registrar for cancellation all outstanding notes or by depositing with the trustee or delivering to the holders, as applicable, after the notes have become due and payable, whether at maturity, at any fundamental change repurchase date, upon conversion or otherwise, cash or cash and/or shares of common stock (solely to satisfy outstanding conversions, as applicable) sufficient to pay all of the outstanding notes and paying all other sums payable under the indenture by us. Such discharge is subject to terms contained in the indenture.

This “—Discharge” section replaces the section of the accompanying prospectus under the heading “Description of Debt Securities—Discharge, Defeasance and Covenant Defeasance” in its entirety.

Calculations in Respect of the Notes

Except as otherwise provided above, we will be responsible for making all calculations called for under the notes. These calculations include, but are not limited to, determinations of the stock price, the last reported sale prices of our common stock, the trading price of the notes (for purposes of determining whether the notes are convertible as described herein), the daily VWAPs, the daily conversion values, the daily settlement amounts, accrued interest payable on the notes and the conversion rate of the notes. We will make all these calculations in good faith and, absent manifest error, our calculations will be final and binding on holders of notes. We will provide a schedule of our calculations to each of the trustee and the conversion agent, and each of the trustee and the conversion agent is entitled to rely conclusively upon the accuracy of our calculations without independent verification. The trustee will forward our calculations to any holder of notes upon the written request of that holder.

Reports

The indenture will provide that any documents or reports that we are required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act (excluding, for the avoidance of doubt, any such documents or reports (or portions thereof) that are subject to confidential treatment and any correspondence with the SEC) (collectively, the “financial information”) must be filed by us with the trustee within 15 days after the same are required to be filed with the SEC (giving effect to any grace period provided by Rule 12b-25 (or any successor rule) under the Exchange Act). Documents or reports filed by us with the SEC via the EDGAR system (or any successor thereto) will be deemed to be filed by us with the trustee as of the time such documents or reports are filed via EDGAR (or any successor thereto), it being understood that the trustee shall have no responsibility to determine if such filings have been made.

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Trustee

Wilmington Trust, National Association is the trustee, registrar, paying agent and conversion agent for the notes. Wilmington Trust, National Association, in each of its capacities, including without limitation as trustee, registrar, paying agent and conversion agent, assumes no responsibility for the accuracy or completeness of the information concerning us or our affiliates or any other party contained in this document or the related documents or for any failure by us or any other party to disclose events that may have occurred and may affect the significance or accuracy of such information.

Governing Law

The indenture will provide that it and the notes, and any claim, controversy or dispute arising under or related to the indenture or the notes, will be governed by and construed in accordance with the laws of the State of New York.

Book-Entry, Settlement and Clearance

The Global Notes

The notes will be initially issued in the form of one or more registered notes in global form, without interest coupons (the “global notes”). Upon issuance, each of the global notes will be deposited with the trustee as custodian for DTC and registered in the name of Cede & Co., as nominee of DTC.

Ownership of beneficial interests in a global note will be limited to persons who have accounts with DTC (“DTC participants”) or persons who hold interests through DTC participants. We expect that under procedures established by DTC:

- upon deposit of a global note with DTC’s custodian, DTC will credit portions of the principal amount of the global note to the accounts of the DTC participants designated by the underwriters; and
- ownership of beneficial interests in a global note will be shown on, and transfer of ownership of those interests will be effected only through, records maintained by DTC (with respect to interests of DTC participants) and the records of DTC participants (with respect to other owners of beneficial interests in the global note).

Beneficial interests in global notes may not be exchanged for notes in physical, certificated form except in the limited circumstances described below.

Book-Entry Procedures for the Global Notes

All interests in the global notes will be subject to the operations and procedures of DTC and, therefore, you must allow for sufficient time in order to comply with these procedures if you wish to exercise any of your rights with respect to the notes. We provide the following summary of those operations and procedures solely for the convenience of investors. The operations and procedures of DTC are controlled by that settlement system and may be changed at any time. Neither we nor the underwriters or the trustee are responsible for those operations or procedures.

DTC has advised us that it is:

- a limited purpose trust company organized under the laws of the State of New York;
- a “banking organization” within the meaning of the New York State Banking Law;
- a member of the Federal Reserve System;
- a “clearing corporation” within the meaning of the Uniform Commercial Code; and
- a “clearing agency” registered under Section 17A of the Exchange Act.

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DTC was created to hold securities for its participants and to facilitate the clearance and settlement of securities transactions between its participants through electronic book-entry changes to the accounts of its participants. DTC's participants include securities brokers and dealers, including the underwriters; banks and trust companies; clearing corporations and other organizations. Indirect access to DTC's system is also available to others such as banks, brokers, dealers and trust companies; these indirect participants clear through or maintain a custodial relationship with a DTC participant, either directly or indirectly. Investors who are not DTC participants may beneficially own securities held by or on behalf of DTC only through DTC participants or indirect participants in DTC.

So long as DTC's nominee is the registered owner of a global note, that nominee will be considered the sole owner or holder of the notes represented by that global note for all purposes under the indenture. Except as provided below, owners of beneficial interests in a global note:

- will not be entitled to have notes represented by the global note registered in their names;
- will not receive or be entitled to receive physical, certificated notes; and
- will not be considered the owners or holders of the notes under the indenture for any purpose, including with respect to the giving of any direction, instruction or approval to the trustee under the indenture.

As a result, each investor who owns a beneficial interest in a global note must rely on the procedures of DTC to exercise any rights of a holder of notes under the indenture (and, if the investor is not a participant or an indirect participant in DTC, on the procedures of the DTC participant through which the investor owns its interest). Neither we nor the trustee, paying agent or conversion agent has any responsibility or liability for any act or omission of DTC.

Payments of principal and interest with respect to the notes represented by a global note will be made by the trustee to DTC's nominee as the registered holder of the global note. Neither we nor the trustee or the paying agent will have any responsibility or liability for the payment of amounts to owners of beneficial interests in a global note, for any aspect of the records relating to or payments made on account of those interests by DTC, or for maintaining, supervising or reviewing any records of DTC relating to those interests.

Payments by participants and indirect participants in DTC to the owners of beneficial interests in a global note will be governed by standing instructions and customary industry practice and will be the responsibility of those participants or indirect participants and DTC.

Transfers between participants in DTC will be effected under DTC's procedures and will be settled in same-day funds.

Certificated Notes

Notes in physical, certificated form will be issued and delivered to each person that DTC identifies as a beneficial owner of the related notes only if:

- DTC notifies us at any time that it is unwilling or unable to continue as depository for the global notes and a successor depository is not appointed within 90 days;
- DTC ceases to be registered as a clearing agency under the Exchange Act and a successor depository is not appointed within 90 days; or
- an event of default with respect to the notes has occurred and is continuing and such beneficial owner requests that its beneficial interests in the notes be exchanged for notes in physical, certificated form.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following discussion is a summary of the material U.S. federal income tax considerations relating to the purchase, ownership and disposition of the notes and any common stock received on conversion thereof, but does not purport to be a complete analysis of all potential tax effects and does not address the effects of any state, local, alternative minimum, estate, gift or non-U.S. tax laws. This discussion is based upon the U.S. Internal Revenue Code of 1986, as amended (the “Code”), Treasury regulations issued thereunder, and judicial and administrative interpretations thereof, each as in effect on the date hereof, and all of which are subject to change, possibly with retroactive effect and to differing interpretations, all of which could result in U.S. federal income tax considerations different from those described below. No rulings from the Internal Revenue Service (“IRS”) have been or are expected to be sought with respect to the matters discussed below. The discussion below is not binding on the IRS or the courts. Accordingly, there can be no assurance that the IRS will not take a different position concerning the tax considerations of the purchase, ownership or disposition of the notes and any common stock received on conversion thereof or that any such position would not be sustained.

This discussion does not address all of the U.S. federal income tax considerations that might be relevant to a beneficial owner in light of such beneficial owner’s particular circumstances or to beneficial owners subject to special treatment under the U.S. federal income tax laws, including:

- a dealer in securities;
- a financial institution;
- a regulated investment company;
- a real estate investment trust;
- a tax-exempt organization;
- an insurance company;
- a person holding the notes as part of a hedging, integrated, or conversion transaction or a straddle, or a person deemed to sell notes or common stock under the constructive sale provisions of the Code;
- a trader in securities that has elected the mark-to-market method of tax accounting for securities;
- an entity that is treated as a partnership for U.S. federal income tax purposes or any other pass-through entity;
- a person who is a partner or investor in a partnership or other pass-through entity, in each case for U.S. federal income tax purposes, that holds the notes or common stock;
- a U.S. person whose “functional currency” is not the U.S. dollar;
- a tax-deferred or other retirement account;
- a person required under Section 451(b) of the Code to conform to the timing of income accruals with respect to the notes or any common stock received on conversion thereof to their financial statements;
- a controlled foreign corporation;
- a passive foreign investment company;
- a qualified foreign pension fund; or
- a U.S. expatriate.

In addition, this discussion is limited to persons who purchase the notes for cash at original issue and at their “issue price” (the first price at which a substantial amount of the notes is sold to the public for cash, excluding sales to bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers) and who hold the notes as capital assets within the meaning of Section 1221 of the Code.

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For purposes of this discussion, a “U.S. holder” is a beneficial owner of a note or a share of common stock received upon conversion of the note that is, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation (or any other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust if (1) it is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (2) it has a valid election in effect under applicable Treasury regulations to be treated as a U.S. person.

For purposes of this discussion, a “non-U.S. holder” is a beneficial owner of a note or share of common stock received upon conversion of the note that is (i) a foreign corporation, (ii) a nonresident alien individual, or (iii) a foreign estate or trust that in each case is not subject to U.S. federal income tax on a net-income basis on income or gain from a note or share of common stock.

If a partnership or other pass-through entity treated as a partnership, in each case, for U.S. federal income tax purposes, holds the notes or shares of common stock received on conversion thereof, the tax treatment of a partner will generally depend upon the status of the partner and the activities of such partnership or pass-through entity. A partnership holding the notes or shares of common stock received on conversion thereof or a partner therein should consult its own tax advisor as to the tax considerations of the purchase, ownership and disposition of the notes or shares of common stock received on conversion thereof.

Prospective investors considering the purchase of notes should consult their own tax advisors concerning the particular U.S. federal income tax considerations to them of the purchase, ownership and disposition of the notes or shares of common stock received on conversion thereof in light of their specific situation, as well as the considerations to them arising under the laws of any other taxing jurisdiction.

U.S. Holders

The following discussion is a summary of certain U.S. federal income tax considerations applicable to a U.S. holder of notes or shares of common stock received on conversion thereof.

Payment of Interest. Payments of stated interest on the notes will generally be taxable to a U.S. holder as ordinary income at the time that such payments are received or accrued, in accordance with such U.S. holder’s method of accounting for U.S. federal income tax purposes.

This discussion assumes that the notes will not be issued with more than a de minimis amount of original issue discount. If, however, the notes’ principal amount exceeds the issue price by more than a de minimis amount, as determined under applicable Treasury regulations, a U.S. holder will be required to include such excess of principal amount over issue price in income as original issue discount, as it accrues, in accordance with a constant yield method based on a compounding of interest before the receipt of cash payments attributable to this income.

Additional Interest. As described under the heading “Description of Notes—Events of Default,” we may be required to pay additional interest on the notes in certain circumstances. We intend to take the position that the notes should not be treated as contingent payment debt instruments because of the anticipated remote possibility of such additional payments. Our determination that the notes are not contingent payment debt instruments, while not binding on the IRS, is binding on U.S. holders unless they disclose their contrary position in the manner required by applicable Treasury regulations. Assuming such position is respected by the IRS, any additional interest paid to a U.S. holder would be taxable as additional ordinary income when received or accrued, in

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accordance with the U.S. holder's method of accounting for U.S. federal income tax purposes. However, the IRS may take a position contrary to our position, which could materially and adversely affect the timing and character of income with respect to the notes. In particular, if the notes were treated as contingent payment debt instruments, U.S. holders would be required to accrue interest income at a higher rate on the notes and to treat any gain recognized on the sale or other disposition of a note (including any gain realized on the conversion of a note) as ordinary income rather than as capital gain. The remainder of the discussion assumes that the notes are not treated as contingent payment debt instruments.

Sale, Exchange, or Other Taxable Disposition of Notes, Including a Conversion of the Notes for Cash. A U.S. holder will generally recognize gain or loss upon the sale, exchange, or other taxable disposition of a note, including a conversion of the note into solely cash, equal to the difference between the amount realized upon the sale, exchange, or other taxable disposition (less an amount equal to any accrued but unpaid interest, which will be taxable as interest income as discussed above to the extent not previously included in income by the U.S. holder) and the U.S. holder's adjusted U.S. federal income tax basis in the note. A U.S. holder's adjusted tax basis in a note will generally be its cost for that note plus the amount, if any, included in income on an adjustment to the conversion rate of the notes. Any such gain or loss will generally be capital gain or loss. Long-term capital gains recognized by certain non-corporate U.S. holders (including individuals) are generally subject to a reduced rate of U.S. federal income tax. The deductibility of capital losses is subject to limitations under the Code.

Conversion of Notes into Common Stock. A U.S. holder who receives solely stock and cash in lieu of a fractional share of common stock upon conversion will generally not recognize any gain or loss, except to the extent of cash received in lieu of a fractional share, which will be taxable as a gain or loss as described below, and except to the extent of the fair market value of common stock received with respect to accrued interest, which will be taxable as interest income as discussed above to the extent not previously included in income by the U.S. holder.

A U.S. holder's tax basis in the shares of common stock received upon a conversion (other than common stock attributable to accrued interest, the tax basis of which will equal its fair market value) will equal the tax basis in the note that was converted (excluding the portion of the tax basis that is allocable to any fractional share). A U.S. holder's holding period for shares of common stock will generally include the period during which the U.S. holder held the notes, except that the holding period of any common stock received with respect to accrued interest will commence on the day after the date of receipt.

The amount of gain or loss recognized on the receipt of cash in lieu of a fractional share will be equal to the difference between the amount of cash a U.S. holder receives in respect of the fractional share and the portion of the U.S. holder's tax basis in the note that is allocable to the fractional share. Any gain recognized on conversion will generally be capital gain and will be long-term capital gain if, at the time of the conversion, the note has been held for more than one year.

If a U.S. holder surrenders notes for conversion and such notes are exchanged with an entity other than us, including pursuant to the procedure described under "Description of Notes—Conversion Rights—Exchange in Lieu of Conversion" the U.S. holder will be required to recognize gain or loss as described under "—Sale, Exchange, or Other Taxable Disposition of Notes, Including a Conversion of the Notes for Cash." In such case, the U.S. holder's adjusted tax basis in the common stock received will equal the fair market value of the stock on the date of the exchange, and the U.S. holder's holding period in the common stock received will begin on the day after the date of the exchange.

Conversion of Notes into a Combination of Common Stock and Cash. If a combination of cash and common stock is received in exchange for a U.S. holder's notes upon conversion, we intend to take the position that the conversion should be treated as a recapitalization. In this case, gain, but not loss, will be recognized in an amount equal to the excess of the fair market value of the common stock and cash received (other than amounts

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attributable to accrued interest, which will be taxable as interest income as discussed above to the extent not previously included in income by the U.S. holder) over the U.S. holder's tax basis in the note, but such gain will only be recognized to the extent of such cash received (excluding cash attributable to accrued interest or received in lieu of a fractional share). Any gain recognized on conversion will generally be capital gain and will be long-term capital gain if, at the time of the conversion, the note has been held for more than one year.

The amount of gain or loss recognized on the receipt of cash in lieu of a fractional share will be equal to the difference between the amount of cash a U.S. holder receives in respect of the fractional share and the portion of the U.S. holder's tax basis in the note that is allocable to the fractional share.

The tax basis in the shares of common stock received upon a conversion (other than common stock attributable to accrued interest, the tax basis of which will equal its fair market value, but including a fractional share deemed received) will equal the tax basis in the note that was converted (excluding the portion of the tax basis that is allocable to any fractional share), reduced by the amount of any cash received (other than cash received in lieu of a fractional share and cash attributable to accrued interest), and increased by the amount of gain, if any, recognized (other than with respect to a fractional share). A U.S. holder's holding period for shares of common stock will include the period during which the U.S. holder held the notes except that the holding period of any common stock received with respect to accrued interest will commence on the day after the date of receipt.

Alternative treatments of the conversion of the notes into cash and common stock are possible. For example, the conversion of a note into cash and common stock may instead be treated for U. S. federal income tax purposes as in part a conversion into stock and in part a payment in redemption of a portion of the note. U.S. holders should consult their tax advisors regarding the tax treatment of the receipt of cash and stock in exchange for notes upon conversion, including any alternative treatments.

If a U.S. holder surrenders notes for conversion and such notes are exchanged with an entity other than us the U.S. holder will be required to recognize gain or loss as described under "—Sale, Exchange, or Other Taxable Disposition of Notes, Including a Conversion of the Notes for Cash." In such case, the U.S. holder's tax basis in the common stock received will equal the fair market value of the stock on the date of the exchange, and the U.S. holder's holding period in the common stock received will begin on the day after the date of the exchange.

Constructive Distribution. The conversion rate of the notes is subject to adjustment in certain circumstances. Under Section 305(c) of the Code, certain adjustments (or failures to make adjustments) in the conversion rate of the notes that have the effect of increasing a U.S. holder's proportionate interest in our assets or earnings may result in a constructive distribution for U.S. federal income tax purposes equal to the value of such increase even though such holder has not received any cash or property as a result of such adjustments. However, adjustments to the conversion rate made pursuant to a bona fide reasonable adjustment formula that has the effect of preventing the dilution of the interest of the holders of the notes will generally not be deemed to result in a constructive distribution. In addition, adjustments to the conversion rate of the Notes that are not made in connection with other shareholders of the Company receiving a distribution of money or other property will generally not give rise to a constructive distribution.

Certain of the possible conversion rate adjustments provided in the notes (including, without limitation, upon the payments of cash distributions to holders of common stock or in connection with a make-whole fundamental change) will not qualify as being pursuant to a bona fide reasonable adjustment formula. If such adjustments are made, depending on the facts at the time, including whether we have paid in the past or will pay in the future distributions on our stock or interest on other convertible debt, a U.S. holder may be deemed to have received a distribution even though it has not received any cash or property because of such adjustments. Any constructive distribution would be taxable as a dividend, return of capital, or capital gain in accordance with rules regarding distributions on stock described below. It is not clear whether a constructive dividend deemed paid

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would be eligible for the preferential rates of U.S. federal income tax applicable to certain dividends paid to non-corporate beneficial owners. It is also not clear whether corporate beneficial owners would be entitled to claim the dividends-received deduction with respect to any such constructive dividends.

Common Stock. Distributions, if any, made on our common stock will generally be included in a U.S. holder's income as ordinary dividend income to the extent of our current or accumulated earnings and profits. However, for individual U.S. holders, such dividends currently are generally taxed at the lower applicable long-term capital gains rates, provided certain holding period and other requirements are satisfied. Distributions in excess of our current and accumulated earnings and profits will be treated as a return of capital to the extent of a U.S. holder's tax basis in the common stock and thereafter as capital gain from the sale or exchange of such common stock. For corporate U.S. holders, dividends received may be eligible for the dividends-received deduction, subject to applicable limitations.

Upon the sale, exchange, or other taxable disposition of our common stock, a U.S. holder will generally recognize capital gain or loss equal to the difference between (i) the amount of cash and the fair market value of any property received upon such taxable disposition and (ii) the U.S. holder's tax basis in the common stock. Such capital gain or loss will be long-term capital gain or loss if a U.S. holder's holding period in the common stock is more than one year at the time of the taxable disposition. Long-term capital gains recognized by certain non-corporate U.S. holders (including individuals) are generally subject to a reduced rate of U.S. federal income tax. The deductibility of capital losses is subject to limitations under the Code.

Unearned Income Medicare Contribution Tax. Certain U.S. holders who are individuals, estates or trusts will be required to pay an additional 3.8% tax on, among other things, interest, dividends and capital gains from the sale, exchange, retirement or other taxable disposition of notes and our common stock.

Information Reporting and Backup Withholding. Information reporting requirements will generally apply to payments of interest on the notes, distributions on shares of common stock (including constructive distributions deemed paid) and to the proceeds of a sale of a note or shares of common stock received on conversion thereof unless a U.S. holder is an exempt recipient, such as a corporation. Backup withholding will apply to those payments if a U.S. holder fails to provide its correct taxpayer identification number or certification of exempt status, or fails to report in full interest and dividend income. Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against U.S. federal income tax liability, provided the required information is timely furnished to IRS. We are generally required to report any basis effects on the notes of corporate actions we take, such as distributions to our common stockholders. Proposed Treasury regulations, on which we may rely prior to the issuance of final Treasury regulations, specify how the date and amount of constructive distributions are determined, and provide that our determination of those items will generally control the timing and amount of any constructive distributions (or portions thereof) U.S. holders would be required to include their taxable income.

Non-U.S. Holders

The following is a summary of the U. S. federal income tax considerations applicable to a non-U.S. holder (as defined above) of notes or shares of common stock received on conversion thereof.

Payments of Interest. The gross amount of payments to a non-U.S. holder of interest that does not qualify for the portfolio interest exemption and that is not effectively connected with the conduct by such non-U.S. holder of a trade or business within the United States (or, if required by an applicable income tax treaty, is not attributable to a permanent establishment of such non-U.S. holder in the United States) will be subject to U.S. withholding tax at the rate of 30%, unless a U.S. income tax treaty applies to reduce or eliminate such withholding tax. The 30% U. S. federal withholding tax will not apply to any payment to a non-U.S. holder of interest on a note under the "portfolio interest exemption" provided the non-U.S. holder:

- does not actually (or constructively) own 10% or more of the total combined voting power of all of our stock entitled to vote;

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- is not a “controlled foreign corporation” with respect to which we are a “related person,” in each case, within the meaning of the Code; and
- either (1) provides the non-U.S. holder’s name and address on a properly completed and executed IRS Form W-8BEN or W-8BEN-E (or other applicable or successor form), and certifies under penalties of perjury that it is not a U.S. person or (2) owns through a securities clearing organization, bank or other financial institution that holds customers’ securities in the ordinary course of its trade or business that certifies, under penalties of perjury, that such a form has been received from the non-U.S. holder by it or by a financial institution between it and the non-U.S. holder.

If a non-U.S. holder is engaged in a trade or business in the United States and interest paid on the note constitutes income that is effectively connected with the conduct of that trade or business (and, if required by an applicable income tax treaty, is attributable to a permanent establishment of that non-U.S. holder) (“U.S. Trade or Business Income”), such interest will be taxed on a net basis at regular graduated U.S. income tax rates rather than the 30% gross rate. In the case of a non-U.S. holder that is a corporation, such U.S. Trade or Business Income may also be subject to the branch profits tax at a 30% rate (or lower applicable income tax treaty rate).

To claim the benefit of a tax treaty exemption from or reduction in withholding, or to claim exemption from withholding because the income is U.S. Trade or Business Income, a non-U.S. holder must provide a properly completed and executed IRS Form W-8BEN, W-8BEN-E or W-8ECI (or such successor forms as the IRS designates), as applicable. The non-U.S. holder must provide the form to its withholding agent. These forms must be periodically updated. A non-U.S. holder who is claiming the benefits of a treaty may be required in certain instances to obtain a U.S. taxpayer identification number and to provide certain documentary evidence issued by foreign governmental authorities to prove residence in the foreign country.

Dividends and Constructive Dividends. Any dividends paid to a non-U.S. holder with respect to shares of our common stock received on conversion of a note (and any deemed dividends resulting from certain adjustments, or failure to make adjustments, to the conversion rate including, without limitation, for cash dividends paid to holders of our common stock, see “—U.S. Holders—Constructive Distribution” above) will be subject to withholding tax at a 30% rate (or lower applicable treaty rate). Because any constructive dividend a non-U.S. holder is deemed to receive would not give rise to any cash from which any applicable withholding tax could be satisfied, this tax would be withheld from any amount owed to the non-U.S. holder, including, but not limited to, interest payments, cash or shares of common stock otherwise due on conversion, dividends or sales proceeds subsequently paid or credited to the non-U.S. holder. Dividends and constructive dividends that constitute U.S. Trade or Business Income are not subject to the withholding tax, but instead are subject to U.S. federal income tax on a net-income basis at applicable graduated individual or corporate rates. Certain certification requirements and disclosure requirements must be complied with in order for U.S. Trade or Business Income to be exempt from withholding. Any such U.S. Trade or Business Income received by a foreign corporation may, under certain circumstances, be subject to an additional branch profits tax at a 30% rate (or lower applicable income tax treaty rate).

A non-U.S. holder of shares of our common stock who wishes to claim the benefit of an applicable treaty rate is required to satisfy applicable certification and other requirements. Non-U.S. holders eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the IRS.

Sale, Exchange, Conversion or Other Disposition of Notes or Shares of Common Stock. A non-U.S. holder will recognize gain on the sale, exchange, conversion or other taxable disposition of notes or shares of common stock received on conversion thereof, including a conversion of notes into cash or into a combination of cash and stock. Nevertheless, such gain will generally not be subject to U.S. federal income tax unless:

- such gain is U.S. Trade or Business Income (as defined above);

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- in the case of any gain recognized by an individual non-U.S. holder, such non-U.S. holder is present in the United States for 183 days or more in the taxable year of such sale, exchange, conversion, or other taxable disposition and certain other conditions are met; or
- we are or have been a “United States real property holding corporation” for U.S. federal income tax purposes during the shorter of the non-U.S. holder’s holding period and the 5-year period ending on the date of such sale, exchange, conversion or other taxable disposition.

An individual non-U.S. holder described in the first bullet point above will be subject to tax on the net gain derived from the sale, exchange, conversion or other taxable disposition under regular graduated U.S. federal income tax rates. An individual non-U.S. holder described in the second bullet point above will be subject to a flat 30% tax on the gain derived from the sale, exchange, conversion or other taxable disposition, which may be offset by U.S.-source capital losses, even though such non-U.S. holder is not considered a resident of the United States. A corporate non-U.S. holder that falls under the first bullet point above will be subject to tax on any net gain in the same manner as if such non-U.S. holder was a “United States person,” as defined under the Code and, in addition, may be subject to the branch profits tax equal to 30% of such non-U.S. holder’s U.S. Trade or Business Income or at such lower rate as may be specified by an applicable income tax treaty.

We believe that we are not and do not anticipate becoming a “United States real property holding corporation” for U.S. federal income tax purposes. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property relative to the fair market value of our other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, however, as long as our common stock is regularly traded on an established securities market (as determined under the Code), such common stock will be treated as a U.S. real property interest only if a non-U.S. holder actually or constructively holds more than five percent of such regularly traded common stock at any time during the applicable period that is specified in the Code.

Any stock that a non-U.S. holder receives on the sale, exchange, conversion or other taxable disposition of a note that is attributable to accrued interest will not give rise to gain, as described above, but instead will generally be subject to the rules for taxation of interest described above under “—Payments of Interest.”

Information Reporting and Backup Withholding. The amount of interest and distributions paid (including distributions deemed paid) and the amount of tax, if any, withheld with respect to those payments will be reported to the non-U.S. holder and the IRS. Copies of the information returns reporting such interest and distributions and any withholding may also be made available to the tax authorities in the country in which a non-U.S. holder resides, under the provisions of an applicable income tax treaty.

We are generally required to report any basis effects on the notes of corporate actions we take, such as certain distributions to our common stockholders. Recently proposed Treasury regulations, on which we may rely prior to the issuance of final Treasury regulations, specify how the date and amount of constructive distributions are determined, and provide that our determination of those items will generally control the timing and amount of any constructive distributions (or portions thereof) non-U.S. holders would be required to include their taxable income.

In general, a non-U.S. holder will not be subject to backup withholding with respect to payments of interest or dividends, provided that the withholding agent does not have actual knowledge or reason to know that such non-U.S. holder is a “United States person,” as defined under the Code, and has received the statement described above in the third bullet point under “—Payments of Interest.” In addition, information returns will not be filed with the IRS in connection with the payment of proceeds from a sale or other disposition of the notes or the shares of our common stock unless made within the United States or through certain U.S. related payors. In the case of a payment made within the United States, unless the withholding agent has received the statement described above in the third bullet point under “—Payments of Interest,” a non-U.S. holder may also be subject to U.S. backup withholding on such proceeds.

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Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against a non-U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Withholding on Foreign Accounts.

Legislation known as the Foreign Account Tax Compliance Act and guidance issued thereunder ("FATCA") imposes withholding taxes on certain types of payments made to "foreign financial institutions" and certain other foreign entities (including financial intermediaries). FATCA generally imposes withholding at a rate of 30% on payments to certain foreign entities of interest on and the gross proceeds of dispositions of the notes and dividends on and the gross proceeds of dispositions of our common stock, unless various U.S. information reporting and due diligence requirements (generally relating to ownership by U.S. persons of interests in or accounts with those entities) have been satisfied or the entity otherwise qualifies for an exemption. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. These withholding rules generally apply to payments of interest and constructive dividends on the notes and dividends on common stock. Currently proposed regulations provide that FATCA withholding does not apply to gross proceeds from the disposition of property of a type that can produce U.S.-source interest or dividends, such as interest on the notes or dividends on common stock; however, prior versions of the rules would have made such gross proceeds subject to FATCA withholding. Taxpayers (including withholding agents) can currently rely on the proposed regulations until final regulations are issued. Holders should consult their tax advisors regarding the application of FATCA.

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UNDERWRITING

We are offering the notes described in this prospectus supplement through a number of underwriters. J.P. Morgan Securities LLC is acting as sole book-running manager of the offering and as the representative of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement, the principal amount of notes listed next to its name in the following table:

<u>Name</u>	<u>Principal Amount of Notes</u>
J.P. Morgan Securities LLC	
Total	<u>\$ 250,000,000</u>

The underwriters are committed to purchase all of the notes offered by us if they purchase any notes. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the notes directly to the public at the initial public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession of up to % of the principal amount. After the initial offering of the notes to the public, the offering price and other selling terms may be changed by the underwriters. Sales of notes made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to purchase, within a 13-day period from, and including, the initial issuance date of the notes, up to an additional \$37,500,000 principal amount of additional notes from us at the public offering price, less underwriting discounts and commissions, solely to cover over-allotments, if any. If any notes are purchased with this option to purchase additional notes, the underwriters will purchase notes in approximately the same proportion as shown in the table above. If any additional notes are purchased, the underwriters will offer the additional notes on the same terms as those on which the notes are being offered hereby.

The underwriting fee is equal to the public offering price per note less the amount paid by the underwriters to us per note. The underwriting fee is \$ per note. The following table shows the underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase notes.

	<u>Without option to purchase additional notes exercise</u>	<u>With full option to purchase additional notes exercise</u>
Per Note	\$	\$
Total	\$	\$

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately \$500,000, which excludes the expenses of the Concurrent Common Stock Offering. We have agreed to reimburse the underwriters in an amount of up to \$10,000 for expenses relating to the compliance of this offering with the rules of the Financial Industry Regulatory Authority, Inc., or FINRA. In accordance with FINRA Rule 5110, this reimbursed FINRA fee is deemed underwriting compensation for this offering.

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A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a certain principal amount of notes to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representative to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

The notes are a new issue of securities, and there is currently no established trading market for such notes. We do not intend to apply for the notes to be listed on any securities exchange or to arrange for the notes to be quoted on any quotation system.

The underwriters have advised us that they intend to make a market in the notes, but they are not obligated to do so. The underwriters may discontinue any market-making in the notes at any time in their sole discretion without notice. Accordingly, we cannot assure you that a liquid trading market will develop for the notes. If an active trading market for the notes does not develop, the market price and liquidity of the notes may be adversely affected. If the notes are traded, they may trade at a discount from their initial public offering price depending on prevailing interest rates, the market for similar securities, our performance and other factors.

We have agreed that we will not, without the prior written consent of J.P. Morgan Securities LLC, for a period of 60 days after the date of this prospectus supplement (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any common stock or any securities convertible into or exercisable or exchangeable for common stock, (ii) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of common stock, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of common stock or such other securities, in cash or otherwise, (iii) file any registration statement under the Securities Act in respect of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or (iv) publicly announce the intention to do any of the foregoing; provided that we may (1) effect the transactions contemplated by the underwriting agreement, (2) issue common stock or options to purchase common stock, or issue common stock upon exercise of options, pursuant to any stock option, stock bonus or other stock plan or arrangement, (3) permit or allow the vesting of or removal or lapse of restrictions on restricted stock or other awards under existing employee benefits plans or agreements in accordance with the terms of such plans or agreements, (4) issue options, restricted stock units or other awards to newly hired employees, (5) file any registration statement on Form S-8 or a successor form thereto in respect of securities offered pursuant to the terms of existing employee benefits, (6) issue common stock upon the exchange, conversion or redemption of any 2016 Notes and issue common stock upon conversion of notes offered hereby in accordance with their terms, (7) issue common stock to one or more counterparties in connection with the consummation of any merger, asset acquisition or other business combination transaction, or any strategic partnership, joint venture, collaboration or license of any business, products, technology in an amount that does not exceed 10% of the total outstanding common stock immediately following the completion of the offering and (8) offer, sell and issue our common stock pursuant to the Concurrent Common Stock Offering.

Our directors and executive officers have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each of these persons, for a period of 60 days after the date of this prospectus supplement, may not, without the prior written consent of J.P. Morgan Securities LLC, offer, sell, contract to sell (including any short sale), pledge, hypothecate, establish an open "put equivalent position" within the meaning of Rule 16a-1(h) under the Exchange Act, grant any option, right or warrant for the sale of, purchase any option or contract to sell, sell any option or contract to purchase, or otherwise encumber, dispose of or transfer, or grant any rights with respect to, directly or indirectly, any shares of common stock or securities convertible into or exchangeable or exercisable for any shares of common stock, enter into a transaction which would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of the common stock, whether any such aforementioned transaction is to be settled by delivery of the common stock or such other securities, in cash or otherwise, or publicly disclose the intention to make any such offer, sale, pledge or disposition, or to enter into

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any such transaction, swap, hedge or other arrangement, without, in each case, the prior written consent of J.P. Morgan Securities LLC, which consent may be withheld in J.P. Morgan Securities LLC's sole discretion. Such restrictions will not, subject to certain limitations and exceptions, apply to: (i) the receipt, exercise, cashless or net exercise, vesting or forfeiture of, or removal or lapse of restrictions on, any stock option, common stock issued upon exercise of a stock option, restricted stock, restricted stock unit or other awards pursuant to any existing employee benefit plan or agreement, (ii) transactions relating to common stock acquired in open market transactions after this offering, (iii) the transfer or sale of common stock, or securities convertible into or exchangeable or exercisable for any shares of common stock, by operation of law, such as pursuant to a domestic relations order or in connection with a divorce settlement, (iv) forfeitures of common stock to the Company during the 60 day lock-up period only to satisfy tax withholding requirements, (v) the entry into any trading plan established pursuant to Rule 10b5-1 under the Exchange Act, provided that such plan does not provide for any sales or other dispositions of common stock or securities convertible into or exchangeable or exercisable for any shares of common stock during the 60 day lock-up period, (vi) transfers as a bona fide gift to a charity or educational institution or, in some cases, to a charitable trust (vii) transfers or distributions pursuant to any bona fide third-party tender offer, merger, consolidation or other similar transaction made to all holders of the Company's capital stock involving a change of control of the Company, (viii) open market sales of shares of common stock received upon the exercise of certain stock options solely to cover any tax liability resulting from such exercise or (ix) certain transfers or sales of common stock, or securities convertible into or exchangeable or exercisable for any shares of common stock, pursuant to a trading plan established pursuant to Rule 10b5-1 under the Exchange Act that has been entered into prior to the date of the lock-up agreement and has been disclosed to J.P. Morgan Securities LLC.

Concurrently with this offering of notes, we are offering \$100 million of our common stock (or \$115.0 million of our common stock if the underwriters of such offering exercise in full their option to purchase additional shares of common stock) in an underwritten offering pursuant to a separate prospectus supplement. The closing of this offering of notes is not conditioned upon the closing of Concurrent Common Stock Offering and the closing of the Concurrent Common Stock Offering is not conditioned upon the closing of this offering of notes. We cannot assure you that the Concurrent Common Stock Offering will be completed on the terms described herein, or at all.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

Our common stock is listed on the Nasdaq Global Select Market under the symbol "RGEN."

In connection with the offering of the notes, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the notes of any series. Specifically, the underwriters may over-allot in connection with the offering of the notes of such series, creating a syndicate short position. In addition, the underwriters may bid for, and purchase, notes in the open market to cover syndicate short positions or to stabilize the price of the notes of any series. Finally, the underwriting syndicate may reclaim selling concessions allowed for distributing the notes in the offering, if the syndicate repurchases previously distributed notes in syndicate covering transactions, stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the notes of any series above independent market levels. The underwriters are not required to engage in any of these activities and may end any of them at any time. Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the notes of any series. In addition, neither we nor the underwriters make any representation that the underwriters will engage in such transactions or that such transactions, once commenced, will not be discontinued without notice.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The securities offered by this prospectus supplement may not be offered or sold, directly or

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indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus supplement comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement. This prospectus supplement does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus supplement in any jurisdiction in which such an offer or a solicitation is unlawful.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. For example, certain of the underwriters are also acting as underwriters in the Concurrent Common Stock Offering for which they will receive customary discounts and commissions. J.P. Morgan Securities LLC may also assist with the redemption, exchange or conversion of the 2016 Notes, for which it would receive customary fees and expense reimbursements. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Notice to Prospective Investors in the European Economic Area

None of this prospectus supplement, the accompanying prospectus nor any related free writing prospectus is a prospectus for the purposes of either the Prospectus Directive or, from July 21, 2019, the Prospectus Regulation (each as defined below). This prospectus supplement, the accompanying prospectus and any related free writing prospectus have been prepared on the basis that any offer of notes in any Member State of the European Economic Area (the “EEA”) which has implemented the Prospectus Directive (each, a “Relevant Member State”) will only be made to a legal entity which is a qualified investor under the Prospectus Directive (or, from July 21, 2019, the Prospectus Regulation) (“Qualified Investors”). Accordingly any person making or intending to make an offer in that Relevant Member State of notes which are the subject of the offering contemplated in this prospectus supplement, the accompanying prospectus and any related free writing prospectus may only do so with respect to Qualified Investors. Neither the Issuer nor the underwriters have authorized, nor do they authorize, the making of any offer of notes other than to Qualified Investors. The expression “Prospectus Directive” means Directive 2003/71/EC (as amended, including by Directive 2010/73/EU), and includes any relevant implementing measure in the Relevant Member State. The expression “Prospectus Regulation” means Prospectus Regulation (EU) 2017/1129.

PRIIPs Regulation / Prospectus Directive / Prohibition of sales to EEA retail investors—The notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the EEA. For these purposes, (a) a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU, as amended (“MiFID II”); or (ii) a customer within the meaning of Directive 2002/92/EC (the Insurance Mediation Directive), as amended, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in the Prospectus Directive (or, from July 21, 2019, the Prospectus Regulation); and (b) the expression “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes. Consequently no key information document required by Regulation (EU) No 1286/2014, as amended (the “PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

Notice to Prospective Investors in the United Kingdom

The communication of this prospectus supplement, the accompanying prospectus, any related free writing prospectus and any other document or materials relating to the issue of the notes offered hereby is not

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being made, and such documents and/or materials have not been approved, by an authorized person for the purposes of section 21 of the United Kingdom's Financial Services and Markets Act 2000, as amended (the "FSMA"). Accordingly, such documents and/or materials are not being distributed to, and must not be passed on to, the general public in the United Kingdom. The communication of such documents and/or materials as a financial promotion is only being made to those persons in the United Kingdom who have professional experience in matters relating to investments and who fall within the definition of investment professionals (as defined in Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Financial Promotion Order")), or who fall within Article 49(2)(a) to (d) of the Financial Promotion Order, or who are any other persons to whom it may otherwise lawfully be made under the Financial Promotion Order (all such persons together being referred to as "relevant persons"). In the United Kingdom, the notes offered hereby are only available to, and any investment or investment activity to which this prospectus supplement, the accompanying prospectus and any related free writing prospectus relates will be engaged in only with, relevant persons. Any person in the United Kingdom that is not a relevant person should not act or rely on this prospectus supplement, the accompanying prospectus or any related free writing prospectus or any of their contents. Any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) in connection with the issue or sale of the notes may only be communicated or caused to be communicated in circumstances in which Section 21 (1) of the FSMA does not apply to the Issuer or Enterprise Parent.

All applicable provisions of the FSMA must be complied with in respect to anything done by any person in relation to the notes in, from or otherwise involving the United Kingdom.

Notice to Prospective Investors in Hong Kong

The notes may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the notes may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to notes which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Notice to Prospective Investors in Japan

The notes offered in this prospectus have not been and will not be registered under the Financial Instruments and Exchange Law of Japan. The notes have not been offered or sold and will not be offered or sold, directly or indirectly, in Japan or to or for the account of any resident of Japan (including any corporation or other entity organized under the laws of Japan), except (i) pursuant to an exemption from the registration requirements of the Financial Instruments and Exchange Law and (ii) in compliance with any other applicable requirements of Japanese law.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the notes may not be circulated or distributed, nor may the notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities

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and Futures Act, Chapter 289 of Singapore (the “SFA”), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

Where the notes are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

shares, debentures and units of shares and debentures of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the notes pursuant to an offer made under Section 275 of the SFA except

- to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than \$200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and further for corporations, in accordance with the conditions specified in Section 275 of the SFA;
- where no consideration is or will be given for the transfer; or
- where the transfer is by operation of law.

Singapore Securities and Futures Act Product Classification

Solely for the purposes of its obligations pursuant to sections 309B(1)(a) and 309B(1)(c) of the Securities and Futures Act (Chapter 289 of Singapore) (the “SFA”), we have determined, and hereby notify all relevant persons (as defined in Section 309A of the SFA) that the notes are “prescribed capital markets products” (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

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LEGAL MATTERS

Certain legal matters relating to the notes offered hereby will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Covington & Burling LLP, New York, New York, is counsel to the underwriters in connection with this offering and Skadden, Arps, Slate, Meagher & Flom LLP, New York, New York is special products counsel to the underwriters in connection with this offering.

EXPERTS

The consolidated financial statements of Repligen Corporation appearing in Repligen Corporation's Annual Report on Form 10-K for the year ended December 31, 2018, and the effectiveness of Repligen Corporation's internal control over financial reporting as of December 31, 2018 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

The consolidated financial statements of C Technologies as of December 31, 2018, incorporated in this prospectus supplement by reference to our Current Report on Form 8-K/A filed with the SEC on July 15, 2019, have been audited by Friedman LLP, independent public accounting firm, as stated in its report with respect thereto also incorporated herein by reference to such Current Report. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of Friedman LLP as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the notes offered by this prospectus supplement. This prospectus supplement does not contain all the information set forth in the registration statement and its exhibits and schedules, portions of which have been omitted as permitted by the rules and regulations of the SEC. You should read the registration statement and its exhibits and schedules carefully for provisions that may be important to you.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website at www.sec.gov that contains periodic and current reports, proxy and information statements, and other information regarding registrants that are filed electronically with the SEC.

These documents are also available, free of charge, through the Investors section of our website, which is located at www.repligen.com. Information contained on our website is not incorporated by reference into this prospectus supplement or the accompanying prospectus and you should not consider information on our website to be part of this prospectus supplement or the accompanying prospectus.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus supplement, and information that we file after the date hereof with the SEC will automatically update and supersede the information already incorporated by reference. We are incorporating by reference the documents listed below, which we have already filed with the SEC, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any future report or document that is not deemed filed under such provisions, after the date of this prospectus supplement and prior to the termination of this offering:

- Annual Report on [Form 10-K](#) for the year ended December 31, 2018, as filed with the SEC on March 1, 2019;
- Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2019, as filed with the SEC on May 9, 2019;
- The information specifically incorporated by reference into our Annual Report on [Form 10-K](#) for the year ended December 31, 2018 from our definitive proxy statement on [Schedule 14A](#) (other than information furnished rather than filed), which was filed with the SEC on April 18, 2019;
- Current Reports on Form 8-K filed with the SEC on [April 26, 2019](#) (as amended on [April 29, 2019](#) and July 15, 2019), [May 1, 2019](#), [May 21, 2019](#), [May 31, 2019](#) and [June 19, 2019](#) (in each case, other than information furnished rather than filed); and
- The description of our common stock contained in our registration statement on Form 8-A, which was filed with the SEC in paper format on May 27, 1986, including any amendment or report filed for the purpose of updating such description.

You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus supplement, at no cost by writing or telephoning us at the following:

Repligen Corporation
41 Seyon Street, Bldg. 1, Suite 100
Waltham, MA, 02453
Attention: Secretary, (781) 250-0111

You may also access these documents, free of charge on the SEC's website at www.sec.gov or on our website at www.repligen.com. The information contained on, or that can be accessed through, our website does not constitute part of this prospectus supplement, and the reference to our website address is included in this prospectus supplement as an inactive textual reference only.

REPLIGEN CORPORATION



Common Stock

Preferred Stock

Debt Securities

Warrants

Units

By this prospectus, we may offer and sell from time to time, in one or more offerings, common stock, preferred stock, debt securities, warrants or any combination thereof as described in this prospectus. The warrants may be convertible into or exercisable or exchangeable for common stock or preferred stock, the preferred stock may be convertible into or exchangeable for common stock and the debt securities may be convertible into or exchangeable for common stock or preferred stock. You should carefully read this prospectus, any prospectus supplement and any related free writing prospectus, as well as any documents incorporated in any of the foregoing by reference, before you invest in our securities. This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement. The prospectus supplement or any related free writing prospectus may also add to, update, supplement or clarify information contained in this prospectus.

Our common stock is traded on the Nasdaq Global Select Market under the symbol "RGEN."

We may offer and sell our securities to or through one or more agents, underwriters, dealers or other third parties or directly to one or more purchasers on a continuous or delayed basis. If agents, underwriters or dealers are used to sell our securities, we will name them and describe their compensation in a prospectus supplement. The price to the public of our securities and the net proceeds we expect to receive from the sale of such securities will also be set forth in a prospectus supplement.

INVESTING IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD CAREFULLY REVIEW THE RISKS AND UNCERTAINTIES REFERENCED UNDER THE HEADING "[RISK FACTORS](#)" ON PAGE 5 OF THIS PROSPECTUS AS WELL AS THOSE CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT AND ANY RELATED FREE WRITING PROSPECTUS, AND IN THE OTHER DOCUMENTS THAT ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS OR THE APPLICABLE PROSPECTUS SUPPLEMENT.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 29, 2019.

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We are responsible for the information contained and incorporated by reference in this prospectus, in any accompanying prospectus supplement, and in any related free writing prospectus we prepare or authorize. We have not authorized anyone to give you any other information, and we take no responsibility for any other information that others may give you. If you are in a jurisdiction where offers to sell, or solicitations of offers to purchase, the securities offered by this documentation are unlawful, or if you are a person to whom it is unlawful to direct these types of activities, then the offer presented in this document does not extend to you. The information contained in this document speaks only as of the date of this document, unless the information specifically indicates that another date applies. Our business, financial condition, results of operations and prospectus may have changed since those dates.

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ABOUT THIS PROSPECTUS

This prospectus is part of an automatic shelf registration statement that we filed with the Securities and Exchange Commission, or the SEC, as a “well-known seasoned issuer” as defined in Rule 405 under the Securities Act of 1933, as amended, or the Securities Act. Under this shelf registration, we may offer shares of our common stock and preferred stock, various series of warrants to purchase common stock or preferred stock, debt securities or any combination thereof, from time to time in one or more offerings. This prospectus only provides you with a general description of the securities we may offer. Each time we offer our securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the specific terms of the offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement. Each such prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents incorporated by reference into this prospectus. We urge you to carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the headings “Where You Can Find Additional Information” and “Incorporation of Certain Information by Reference” before you invest in our securities.

We have not authorized anyone to provide you with information in addition to or different from that contained or incorporated by reference into this prospectus, any applicable prospectus supplement and any related free writing prospectus. We take no responsibility for, and can provide no assurances as to the reliability of, any information not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find Additional Information.”

Unless otherwise mentioned or unless the context requires otherwise, throughout this prospectus, any applicable prospectus supplement and any related free writing prospectus, the words “Repligen,” “we,” “us,” “our,” the “company” or similar references refer to Repligen Corporation and its subsidiaries; and the term “securities” refers collectively to our common stock, preferred stock, warrants to purchase common stock or preferred stock, debt securities, or any combination of the foregoing securities.

This prospectus and the information incorporated herein by reference contain references to trademarks, service marks and trade names owned by us or other companies. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus and the information incorporated herein, including logos, artwork, and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks and trade names. We do not intend our use or display of other companies’ trade names, service marks or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of a registration statement that we have filed with the SEC. Certain information in the registration statement has been omitted from this prospectus in accordance with the rules of the SEC. We are subject to the information requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and, in accordance therewith, file annual, quarterly and special reports, proxy statements and other information with the SEC. These documents also may be accessed through the SEC's Electronic Data Gathering, Analysis and Retrieval system, or EDGAR, via electronic means, including the SEC's home page on the Internet (*www.sec.gov*).

We have the authority to designate and issue more than one class or series of stock having various preferences, conversion and other rights, voting powers, restrictions, limitations as to dividends, qualifications, and terms and conditions of redemption. See "Description of Securities." We will furnish a full statement of the relative rights and preferences of each class or series of our stock which has been so designated and any restrictions on the ownership or transfer of our stock to any stockholder upon request and without charge. Written requests for such copies should be directed to Repligen Corporation, 41 Seyon Street, Bldg.1, Suite 100, Waltham, MA 02453, Attention: Secretary, or by telephone request to (781) 250-0111. Our website is located at *http://www.repligen.com*. Information contained on our website is not incorporated by reference into this prospectus and, therefore, is not part of this prospectus or any accompanying prospectus supplement.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus, and information that we file after the date hereof with the SEC will automatically update and supersede the information already incorporated by reference. We are incorporating by reference the documents listed below, which we have already filed with the SEC, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any future report or document that is not deemed filed under such provisions, after the date of this prospectus and prior to the termination of this offering:

- Annual Report on [Form 10-K](#) for the year ended December 31, 2018, as filed with the SEC on March 1, 2019;
- The information specifically incorporated by reference into our Annual Report on [Form 10-K](#) for the year ended December 31, 2018 from our definitive proxy statement on [Schedule 14A](#) (other than information furnished rather than filed), which was filed with the SEC on April 18, 2019;
- Current Reports on Form 8-K filed with the SEC on [April 26, 2019](#) (other than information furnished rather than filed) and Form 8-K/A filed with the SEC on [April 29, 2019](#); and
- The description of our common stock contained in our registration statement on Form 8-A, which was filed with the SEC in paper format on May 27, 1986, including any amendment or report filed for the purpose of updating such description.

You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost by writing or telephoning us at the following:

Repligen Corporation, 41 Seyon Street, Bldg. 1, Suite 100, Waltham, MA, 02453, Attention: Secretary, (781) 250-0111.

You may also access these documents, free of charge on the SEC's website at www.sec.gov or on our website at www.repligen.com. The information contained in, or that can be accessed through, our website is not part of this prospectus.

This prospectus is part of a registration statement we filed with the SEC. We have incorporated exhibits into this registration statement. You should read the exhibits carefully for provisions that may be important to you.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “may,” “will,” “could,” “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “projects,” “potential,” “continue,” and similar expressions, or the negative of these terms, or similar expressions. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this report, and in particular those factors referenced in the section “Risk Factors.”

This prospectus, including the sections entitled “About this Prospectus” and “Risk Factors,” contains forward-looking statements that are based on our management’s belief and assumptions and on information currently available to our management. These statements relate to future events or our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements include, but are not limited to, statements about: the acceptance by the market of our products, the implementation of our business model, strategic plans for our business, including potential acquisitions of businesses or new products, products and technology, the scope of protection we are able to establish and maintain for intellectual property rights covering our products and technology, estimates of our expenses, future revenues and capital requirements, our ability to maintain and establish key customer relationships, and our financial performance, developments relating to our competitors and our industry. Given these uncertainties, you should not place undue reliance on these forward-looking statements. You should read this prospectus, any supplements to this prospectus and the documents that we incorporate by reference in this prospectus with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we do not undertake any obligation to update or revise any forward-looking statements contained in this prospectus or any supplement to this prospectus, whether as a result of new information, future events or otherwise.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks described in the documents incorporated by reference in this prospectus and any prospectus supplement, as well as other information we include or incorporate by reference into this prospectus and any applicable prospectus supplement, before making an investment decision. Our business, financial condition or results of operations could be materially adversely affected by the materialization of any of these risks. The trading price of our securities could decline due to the materialization of any of these risks, and you may lose all or part of your investment. This prospectus and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks described in the documents incorporated herein by reference, including (i) our most recent annual report on Form 10-K which is on file with the SEC and is incorporated herein by reference and (ii) other documents we file with the SEC that are deemed incorporated by reference into this prospectus.

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ABOUT THE COMPANY

We are a leading provider of advanced bioprocessing technologies and solutions used in the process of manufacturing biologic drugs. Our products are made to substantially increase biopharmaceutical manufacturing efficiencies and flexibility. As the global biologics market continues to experience strong growth and expansion, our customers – primarily large biopharmaceutical companies and contract manufacturing organizations – face critical production cost, capacity, quality and time pressures that our products are made to address. Our commitment to bioprocessing is helping to set new standards for the way our customers manufacture biologic drugs, including monoclonal antibodies, recombinant proteins, vaccines and gene therapies. We are dedicated to inspiring advances in bioprocessing as a trusted partner in the production of biologic drugs that improve human health worldwide.

We currently operate as one bioprocessing business, with a comprehensive suite of products to serve both upstream and downstream processes in biologic drug manufacturing. Building on over 35 years of industry expertise, we have developed a broad and diversified product portfolio that reflects our commitment to build a best-in-class bioprocessing technology company with a world-class direct sales and commercial organization.

We are committed to capitalizing on growth opportunities and maximizing the value of our product platform through both organic growth initiatives (internal innovation and commercial leverage) and targeted acquisitions.

We were incorporated in May 1981 under the laws of the State of Delaware. Our mailing address and executive offices are located at 41 Seyon Street, Waltham, MA 02453 and our telephone number at that address is (781) 250-0111. We maintain an Internet website at the following address: www.repligen.com. The information on, or that can be accessed through, our website does not constitute part of this prospectus, and you should not rely on any such information in making the decision whether to purchase our common stock. Our common stock trades on the Nasdaq Global Select Market under the symbol “RGEN.”

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DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only. This description is based upon, and is qualified by reference to, our restated certificate of incorporation, as amended, or certificate of incorporation, our second amended and restated by-laws, or by-laws, and applicable provisions of the Delaware General Corporation Law. This summary is not intended to be a complete description of our capital stock. You should read our certificate of incorporation and by-laws for the provisions that are important to you.

General

Our authorized capital stock consists of 80,000,000 shares of common stock, par value \$0.01 per share, and 5,000,000 shares of preferred stock, par value \$0.01 per share, all of which shares of preferred stock are undesignated.

As of March 29, 2019, 44,073,998 shares of our common stock were outstanding and held by 352 stockholders of record.

Common Stock

We may issue shares of our common stock from time to time. Holders of shares of our common stock are entitled to one vote for each share held of record on all matters to be voted on by stockholders and do not have cumulative voting rights. Subject to the rights of holders of any future series of undesignated preferred stock which may be designated, each share of the outstanding common stock is entitled to participate ratably in any distribution of net assets made to the stockholders in the event of our liquidation, dissolution or winding up and is entitled to participate equally in dividends if and when declared by our board of directors. There are no redemption, sinking fund, conversion or preemptive rights with respect to shares of common stock. All shares of common stock have equal rights and preferences.

Exchange Listing

Our common stock is listed on the Nasdaq Global Select Market under the trading symbol "RGEN."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent and registrar's address is 6201 15th Avenue Brooklyn, N.Y. 11219, and its telephone number is (718) 921-8200.

Preferred Stock

We may issue shares of preferred stock in one or more series. Our board of directors will determine the rights, preferences and privileges of the shares of each wholly unissued series, and any qualifications, limitations or restrictions thereon, including dividend rights, conversion rights, preemptive rights, voting rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into our common stock or exchangeable for other securities. Conversion may be mandatory or at the holder's option and would be at prescribed conversion rates. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our company or other corporate action.

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Anti-Takeover Effects of our Certificate of Incorporation and By-laws and Delaware Law

Our certificate of incorporation and our by-laws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Meetings of Stockholders

Our by-laws provide that a special meeting of the stockholders may be called by the President, the Chairman, the board of directors, or upon the written request of one or more stockholders holding in the aggregate at least 30% of the outstanding shares of our stock entitled to vote at such meeting; and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our by-laws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our by-laws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 60 days nor more than 90 days prior to the first anniversary date of the annual meeting for the preceding year. Our by-laws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and By-laws

Any amendment of our certificate of incorporation must first be approved by a majority of our board of directors, and if required by law, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class. Our by-laws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the by-laws; and may also be amended by the affirmative vote of the holders of a majority of the outstanding shares entitled to vote at any regular meeting of stockholders, or at any special meeting of stockholders provided notice of such alteration, amendment, repeal or adoption of new by-laws must have been stated in the notice of such special meeting.

Undesignated Preferred Stock

Our certificate of incorporation provides for 5,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

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Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

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DESCRIPTION OF DEBT SECURITIES

We may offer debt securities which may be senior or subordinated. We refer to senior debt securities and subordinated debt securities collectively as debt securities. Each series of debt securities may have different terms. The following description summarizes the general terms and provisions of the debt securities. We will describe the specific terms of the debt securities and the extent, if any, to which the general provisions summarized below apply to any series of debt securities in the prospectus supplement relating to the series and any applicable free writing prospectus that we authorize to be delivered.

We may issue senior debt securities from time to time, in one or more series under a senior indenture to be entered into between us and a senior trustee to be named in a prospectus supplement, which we refer to as the senior trustee. We may issue subordinated debt securities from time to time, in one or more series under a subordinated indenture to be entered into between us and a subordinated trustee to be named in a prospectus supplement, which we refer to as the subordinated trustee. The forms of senior indenture and subordinated indenture are filed as exhibits to the registration statement of which this prospectus forms a part. Together, the senior indenture and the subordinated indenture are referred to as the indentures and, together, the senior trustee and the subordinated trustee are referred to as the trustees. This prospectus briefly outlines some of the provisions of the indentures. The following summary of the material provisions of the indentures is qualified in its entirety by the provisions of the indentures, including definitions of certain terms used in the indentures. Wherever we refer to particular sections or defined terms of the indentures, those sections or defined terms are incorporated by reference in this prospectus or the applicable prospectus supplement. You should review the indentures that are filed as exhibits to the registration statement of which this prospectus forms a part for additional information. As used in this prospectus, the term “debt securities” includes the debt securities being offered by this prospectus and all other debt securities issued by us under the indentures.

General

The indentures:

- do not limit the amount of debt securities that we may issue;
- allow us to issue debt securities in one or more series;
- do not require us to issue all of the debt securities of a series at the same time; and
- allow us to reopen a series to issue additional debt securities without the consent of the holders of the debt securities of such series.

Unless otherwise provided in the applicable prospectus supplement, the senior debt securities will be unsubordinated obligations and will rank equally with all of our other unsecured and unsubordinated indebtedness. Payments on the subordinated debt securities will be subordinated to the prior payment in full of all of our senior indebtedness, as described under “—Subordination” and in the applicable prospectus supplement.

Each indenture provides that we may, but need not, designate more than one trustee under an indenture. Any trustee under an indenture may resign or be removed and a successor trustee may be appointed to act with respect to the series of debt securities administered by the resigning or removed trustee. If two or more persons are acting as trustee with respect to different series of debt securities, each trustee shall be a trustee of a trust under the applicable indenture separate and apart from the trust administered by any other trustee. Except as otherwise indicated in this prospectus, any action described in this prospectus to be taken by each trustee may be taken by each trustee with respect to, and only with respect to, the one or more series of debt securities for which it is trustee under the applicable indenture.

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The prospectus supplement for each offering will provide the following terms, where applicable:

- the title of the debt securities and whether they are senior or subordinated;
- the aggregate principal amount of the debt securities being offered, the aggregate principal amount of the debt securities outstanding as of the most recent practicable date and any limit on their aggregate principal amount, including the aggregate principal amount of debt securities authorized;
- the price at which the debt securities will be issued, expressed as a percentage of the principal and, if other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof or, if applicable, the portion of the principal amount of such debt securities that is convertible into common stock or other securities of ours or the method by which any such portion shall be determined;
- if convertible, the terms on which such debt securities are convertible, including the initial conversion price or rate and the conversion period and any applicable limitations on the ownership or transferability of common stock or other securities of ours received on conversion;
- the date or dates, or the method for determining the date or dates, on which the principal of the debt securities will be payable;
- the fixed or variable interest rate or rates of the debt securities, or the method by which the interest rate or rates is determined;
- the date or dates, or the method for determining the date or dates, from which interest will accrue;
- the dates on which interest will be payable;
- the record dates for interest payment dates, or the method by which such dates will be determined;
- the persons to whom interest will be payable;
- the place or places where the principal of, and any premium or make-whole amount, and interest on, the debt securities will be payable;
- where the debt securities may be surrendered for registration of transfer or conversion or exchange;
- the times, prices and other terms and conditions upon which we may redeem the debt securities;
- any obligation we have to redeem, repay or repurchase the debt securities pursuant to any sinking fund or analogous provision or at the option of holders of the debt securities, and the times and prices at which we must redeem, repay or repurchase the debt securities as a result of such obligation;
- the currency or currencies in which the debt securities are denominated and payable if other than United States dollars, which may be a foreign currency or units of two or more foreign currencies or a composite currency or currencies and the terms and conditions relating thereto, and the manner of determining the equivalent of such foreign currency in United States dollars;
- whether the principal of, and any premium or make-whole amount, or interest on, the debt securities of the series are to be payable, at our election or at the election of a holder, in a currency or currencies other than that in which the debt securities are denominated or stated to be payable, and other related terms and conditions;
- whether the debt securities will be in registered form, bearer form, or both, and (i) if in registered form, the person to whom any interest shall be payable, if other than the person in whose name the security is registered at the close of business on the regular record date for such interest, or (ii) if in bearer form, the manner in which, or the person to whom, any interest on the security shall be payable if otherwise than upon presentation and surrender upon maturity;

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- any restrictions applicable to the offer, sale or delivery of securities in bearer form and the terms upon which securities in bearer form of the series may be exchanged for securities in registered form of the series and vice versa, if permitted by applicable laws and regulations;
- whether any debt securities of the series are to be issuable initially in temporary global form and whether any debt securities of the series are to be issuable in permanent global form with or without coupons and, if so, whether beneficial owners of interests in any such permanent global security may, or shall be required to, exchange their interests for other debt securities of the series, and the manner in which interest shall be paid;
- the identity of the depository for securities in registered form, if such series are to be issuable as a global security;
- the applicability, if any, of the defeasance and covenant defeasance provisions described in this prospectus or in the applicable indenture;
- whether and under what circumstances we will pay any additional amounts on the debt securities in respect of any tax, assessment or governmental charge;
- whether and under what circumstances the debt securities being offered are convertible into common stock or other securities of ours, as the case may be, including the conversion price or rate and the manner or calculation thereof;
- the name of the applicable trustee and the nature of any material relationship with us or any of our affiliates, and the percentage of debt securities of the class necessary to require the trustee to take action; and
- any other terms of such debt securities not inconsistent with the provisions of the applicable indenture.

We may issue debt securities that provide for less than the entire principal amount thereof to be payable upon declaration of acceleration of the maturity of the debt securities. We refer to any such debt securities throughout this prospectus as “original issue discount securities.” The applicable prospectus supplement will describe the United States federal income tax consequences and other relevant considerations applicable to original issue discount securities.

Except as described under “—Merger, Consolidation or Sale of Assets” or as may be set forth in any prospectus supplement, the debt securities will not contain any provisions that (i) would limit our ability to incur indebtedness or (ii) would afford holders of debt securities protection in the event of (a) a highly leveraged or similar transaction involving us, or (b) a change of control or reorganization, restructuring, merger or similar transaction involving us that may adversely affect the holders of the debt securities. In the future, we may enter into transactions, such as the sale of all or substantially all of our assets or a merger or consolidation, that may have an adverse effect on our ability to service our indebtedness, including the debt securities, by, among other things, substantially reducing or eliminating our assets.

Our governing instruments do not define the term “substantially all” as it relates to the sale of assets. Additionally, Delaware cases interpreting the term “substantially all” rely upon the facts and circumstances of each particular case. Consequently, to determine whether a sale of “substantially all” of our assets has occurred, a holder of debt securities must review the financial and other information that we have disclosed to the public.

We will provide you with more information in the applicable prospectus supplement regarding any deletions, modifications, or additions to the events of default or covenants that are described below, including any addition of a covenant or other provision providing event risk or similar protection.

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Payment

Unless otherwise provided in the applicable prospectus supplement, the principal of, and any premium or make-whole amount, and interest on, any series of the debt securities will be payable by mailing a check to the address of the person entitled to it as it appears in the applicable register for the debt securities or by wire transfer of funds to that person at an account maintained within the United States.

All monies that we pay to a paying agent or a trustee for the payment of the principal of, and any premium or make-whole amount, or interest on, any debt security will be repaid to us if unclaimed at the end of two years after the obligation underlying payment becomes due and payable. After funds have been returned to us, the holder of the debt security may look only to us for payment, without payment of interest for the period which we hold the funds.

Denomination, Interest, Registration and Transfer

Unless otherwise provided in the applicable prospectus supplement, the debt securities of any series will be issuable in denominations of \$1,000 and integral multiples of \$1,000.

Interest on the debt securities shall be computed on the basis of a 360-day year composed of twelve 30-day months.

Subject to the limitations imposed upon debt securities that are evidenced by a computerized entry in the records of a depository company rather than by physical delivery of a note, a holder of debt securities of any series may:

- exchange them for any authorized denomination of other debt securities of the same series and of a like aggregate principal amount and kind upon surrender of such debt securities at the corporate trust office of the applicable trustee or at the office of any transfer agent that we designate for such purpose; and
- surrender them for registration of transfer or exchange at the corporate trust office of the applicable trustee or at the office of any transfer agent that we designate for such purpose.

Every debt security surrendered for registration of transfer or exchange must be accompanied by a written instrument of transfer satisfactory to the applicable trustee or transfer agent. Payment of a service charge will not be required for any registration of transfer or exchange of any debt securities, but we or the trustee may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection therewith. We may at any time designate additional transfer agents for any series of debt securities.

Neither we, nor any trustee, will be required to:

- issue, register the transfer of or exchange debt securities of any series during a period beginning at the opening of business 15 days before the day that the notice of redemption of any debt securities selected for redemption is mailed and ending at the close of business on the day of such mailing;
- register the transfer of or exchange any debt security, or portion thereof, so selected for redemption, in whole or in part, except the unredeemed portion of any debt security being redeemed in part; and
- issue, register the transfer of or exchange any debt security that has been surrendered for repayment at the option of the holder, except the portion, if any, of such debt security not to be so repaid.

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Merger, Consolidation or Sale of Assets

The indentures provide that we may, without the consent of the holders of any outstanding debt securities, (i) consolidate with, (ii) sell, lease or convey all or substantially all of our assets to, or (iii) merge with or into, any other entity provided that:

- either we are the continuing entity, or the successor entity, if other than us, assumes the obligations (a) to pay the principal of, and any premium or make-whole amount, and interest on, all of the debt securities and (b) to duly perform and observe all of the covenants and conditions contained in the applicable indenture;
- after giving effect to the transaction, there is no event of default under the applicable indentures and no event which, after notice or the lapse of time, or both, would become such an event of default, occurs and continues; and
- an officers' certificate and legal opinion covering such conditions are delivered to each applicable trustee.

Events of Default, Notice and Waiver

Unless the applicable prospectus supplement states otherwise, when we refer to "events of default" as defined in the indentures with respect to any series of debt securities, we mean:

- default in the payment of any installment of interest on any debt security of such series continuing for 90 days unless such date has been extended or deferred;
- default in the payment of principal of, or any premium or make-whole amount on, any debt security of such series when due and payable unless such date has been extended or deferred;
- default in the performance or breach of any covenant or warranty in the debt securities or in the indenture by us continuing for 90 days after written notice described below;
- bankruptcy, insolvency or reorganization, or court appointment of a receiver, liquidator or trustee of us; and
- any other event of default provided with respect to a particular series of debt securities.

If an event of default occurs and is continuing with respect to debt securities of any series outstanding, then the applicable trustee or the holders of 25% or more in principal amount of the debt securities of that series will have the right to declare the principal amount of all the debt securities of that series to be due and payable. If the debt securities of that series are original issue discount securities or indexed securities, then the applicable trustee or the holders of 25% or more in principal amount of the debt securities of that series will have the right to declare the portion of the principal amount as may be specified in the terms thereof to be due and payable. However, at any time after such a declaration of acceleration has been made, but before a judgment or decree for payment of the money due has been obtained by the applicable trustee, the holders of at least a majority in principal amount of outstanding debt securities of such series or of all debt securities then outstanding under the applicable indenture may rescind and annul such declaration and its consequences if:

- we have deposited with the applicable trustee all required payments of the principal, any premium or make-whole amount, interest and, to the extent permitted by law, interest on overdue installment of interest, plus applicable fees, expenses, disbursements and advances of the applicable trustee; and
- all events of default, other than the non-payment of accelerated principal, or a specified portion thereof, and any premium or make-whole amount, have been cured or waived.

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The indentures require each trustee to give notice to the holders of debt securities within the later of 90 days after an event of default and 30 days after the event of default is actually known to a responsible officer of such trustee, unless such default has been cured or waived. However, the trustee may withhold notice if specified persons of such trustee consider such withholding to be in the interest of the holders of debt securities.

The indentures provide that holders of debt securities of any series may not institute any proceedings, judicial or otherwise, with respect to such indenture or for any remedy under the indenture, unless the trustee fails to act for a period of 90 days after the trustee has received a written request to institute proceedings in respect of an event of default from the holders of 25% or more in principal amount of the outstanding debt securities of such series, as well as an offer of indemnity reasonably satisfactory to the trustee. However, this provision will not prevent any holder of debt securities from instituting suit for the enforcement of payment of the principal of, and any premium or make-whole amount, and interest on, such debt securities at the respective due dates thereof.

The indentures provide that, subject to provisions in each indenture relating to its duties in the case of a default, a trustee has no obligation to exercise any of its rights or powers at the request or direction of any holders of any series of debt securities then outstanding under the indenture, unless the holders have offered to the trustee reasonable security or indemnity. The holders of at least a majority in principal amount of the outstanding debt securities of any series or of all debt securities then outstanding under an indenture shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the applicable trustee, or of exercising any trust or power conferred upon such trustee. However, a trustee may refuse to follow any direction which:

- is in conflict with any law or the applicable indenture;
- may involve the trustee in personal liability; or
- may be unduly prejudicial to the holders of debt securities of the series not joining the proceeding.

Within 120 days after the close of each fiscal year, we will be required to deliver to each trustee a certificate, signed by one of our several specified officers, stating whether or not that officer has knowledge of any default under the applicable indenture. If the officer has knowledge of any default, the notice must specify the nature and status of the default.

Modification of the Indentures

The indentures provide that modifications and amendments may be made only with the consent of the affected holders of a majority in principal amount of all outstanding debt securities issued under that indenture:

We and our respective trustee may make modifications and amendments of an indenture without the consent of any holder of debt securities for any of the following purposes:

- to evidence the succession of another person to us as obligor under such indenture;
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants for the benefit of the holders of all or any series of debt securities or to surrender any right or power conferred upon us in such indenture;
- to add events of default for the benefit of the holders of all or any series of debt securities;
- to add to, delete from, or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication, and delivery of debt securities;
- to make any change that does not adversely affect the rights of any securityholder in any material respect;
- to establish the form or terms of debt securities of any series;

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- to provide for the acceptance of appointment by a successor trustee or facilitate the administration of the trusts under an indenture by more than one trustee; or
- to cure any ambiguity, defect or inconsistency in an indenture, provided that such action shall not adversely affect the interests of holders of debt securities of any series issued under such indenture.

Voting

The indentures provide that in determining whether the holders of the requisite principal amount of outstanding debt securities of a series have given any request, demand, authorization, direction, notice, consent or waiver under the indentures or whether a quorum is present at a meeting of holders of debt securities, the principal amount of an original issue discount security that shall be deemed to be outstanding shall be the amount of the principal thereof that would be due and payable as of the date of such determination upon declaration of acceleration of the maturity thereof.

Subordination

Unless otherwise provided in the applicable prospectus supplement, subordinated debt securities will be subject to the following subordination provisions.

Upon any distribution to our creditors in a liquidation, dissolution or reorganization, the payment of the principal of and interest on any subordinated debt securities will be subordinated to the extent provided in the applicable indenture in right of payment to the prior payment in full of all senior debt. However, our obligation to make payments of the principal of and interest on such subordinated debt securities otherwise will not be affected. No payment of principal or interest will be permitted to be made on subordinated debt securities at any time if a default on senior debt exists that permits the holders of such senior debt to accelerate its maturity and the default is the subject of judicial proceedings or we receive notice of the default. After all senior debt is paid in full and until the subordinated debt securities are paid in full, holders of subordinated debt securities will be subrogated to the rights of holders of senior debt to the extent that distributions otherwise payable to holders of subordinated debt securities have been applied to the payment of senior debt. The subordinated indenture will not restrict the amount of senior debt or other indebtedness of ours. As a result of these subordination provisions, in the event of a distribution of assets upon insolvency, holders of subordinated debt securities may recover less, ratably, than our general creditors.

No restrictions will be included in any indenture relating to subordinated debt securities upon the creation of additional senior debt.

If this prospectus is being delivered in connection with the offering of a series of subordinated debt securities, the accompanying prospectus supplement or the information incorporated in this prospectus by reference will set forth the approximate amount of senior debt outstanding as of the end of our most recent fiscal quarter.

Discharge, Defeasance and Covenant Defeasance

Unless otherwise provided in the applicable prospectus supplement, the indentures allow us to discharge our obligations to holders of any series of debt securities issued under any indenture when:

- either (i) all securities of such series have already been delivered to the applicable trustee for cancellation; or (ii) all securities of such series have not already been delivered to the applicable trustee for cancellation but (a) have become due and payable, (b) will become due and payable within one year, or (c) if redeemable at our option, are to be redeemed within one year, and we have irrevocably deposited with the applicable trustee, in trust, funds in such currency or currencies, currency unit or units or composite currency or currencies in which such debt securities are payable, an amount sufficient to pay the entire indebtedness on such debt securities

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in respect of principal and any premium or make-whole amount, and interest to the date of such deposit if such debt securities have become due and payable or, if they have not, to the stated maturity or redemption date;

- we have paid or caused to be paid all other sums payable; and
- an officers' certificate and an opinion of counsel stating the conditions to discharging the debt securities have been satisfied has been delivered to the trustee.

Unless otherwise provided in the applicable prospectus supplement, the indentures provide that, upon our irrevocable deposit with the applicable trustee, in trust, of an amount, in such currency or currencies, currency unit or units or composite currency or currencies in which such debt securities are payable at stated maturity, or government obligations, or both, applicable to such debt securities, which through the scheduled payment of principal and interest in accordance with their terms will provide money in an amount sufficient to pay the principal of, and any premium or make-whole amount, and interest on, such debt securities, and any mandatory sinking fund or analogous payments thereon, on the scheduled due dates therefor, the issuing company shall be released from its obligations with respect to such debt securities under the applicable indenture or, if provided in the applicable prospectus supplement, its obligations with respect to any other covenant, and any omission to comply with such obligations shall not constitute an event of default with respect to such debt securities.

Notwithstanding the above, we may not elect to defease and be discharged from the obligation to pay any additional amounts upon the occurrence of particular events of tax, assessment or governmental charge with respect to payments on such debt securities and the obligations to register the transfer or exchange of such debt securities, to replace temporary or mutilated, destroyed, lost or stolen debt securities, to maintain an office or agency in respect of such debt securities, or to hold monies for payment in trust.

The applicable prospectus supplement may further describe the provisions, if any, permitting such defeasance or covenant defeasance, including any modifications to the provisions described above, with respect to the debt securities of or within a particular series.

Conversion Rights

The terms and conditions, if any, upon which the debt securities are convertible into common stock or other securities of ours will be set forth in the applicable prospectus supplement. The terms will include whether the debt securities are convertible into shares of common stock or other securities of ours, the conversion price, or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at the issuing company's option or the option of the holders, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption of the debt securities and any restrictions on conversion.

No Recourse

No recourse shall be had under any obligation, covenant or agreement of ours in the senior indenture or any supplemental indenture, or in any of the debt securities or because of the creation of any indebtedness represented thereby, against any of our incorporators, stockholders, officers or directors, past, present or future, or of any predecessor or successor entity thereof under any law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise. Each holder, by accepting the debt securities, waives and releases all such liability.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase debt securities, common stock, or preferred stock. We may offer warrants separately or together with one or more additional warrants, debt securities, common stock, or preferred stock, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the accompanying prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the expiration date of the warrants. The applicable prospectus supplement will also describe the following terms of any warrants:

- the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants are to be sold separately or with other securities as parts of units;
- whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- the designation and terms of any equity securities purchasable upon exercise of the warrants;
- the designation, aggregate principal amount, currency and terms of any debt securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the debt securities, common stock, or preferred stock with which the warrants are issued and, the number of warrants issued with each security;
- if applicable, the date from and after which any warrants issued as part of a unit and the related debt securities, common stock, or preferred stock will be separately transferable;
- the number of shares of common stock or preferred stock purchasable upon exercise of a warrant and the price at which those shares may be purchased;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the antidilution provisions of, and other provisions for changes to or adjustment in the exercise price of, the warrants, if any;
- any redemption or call provisions; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange or exercise of the warrants.

Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement of which this prospectus forms a part.

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DESCRIPTION OF UNITS

The following description, together with the additional information that we include in any applicable prospectus supplements and in any related free writing prospectuses, summarizes the material terms and provisions of the units that we may offer under this prospectus. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and any supplemental agreements that contain the terms of the units.

General

We may issue units comprised of shares of common stock, preferred stock, debt securities, warrants and units in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- designation and terms of the units, including whether and under what circumstances the securities comprising the units may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” “Description of Debt Securities” and “Description of Warrants,” will apply to each unit and to the common stock, preferred stock, debt securities and warrants included in each unit, respectively.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

Title

We, the unit agent and any of its agents, may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purpose and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary.

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FORMS OF SECURITIES

Each debt security, warrant and unit will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Unless otherwise provided in the applicable prospectus supplement, certificated securities in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depositary or its nominee as the owner of the debt securities, warrants or units represented by these global securities. The depositary maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

Registered Global Securities

We may issue the registered debt securities, warrants and units in the form of one or more fully registered global securities that will be deposited with a depositary or its nominee identified in the applicable prospectus supplement and registered in the name of that depositary or nominee. In those cases, one or more registered global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by registered global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a registered global security may not be transferred except as a whole by and among the depositary for the registered global security, the nominees of the depositary or any successors of the depositary or those nominees.

If not described below, any specific terms of the depositary arrangement with respect to any securities to be represented by a registered global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depositary arrangements.

Ownership of beneficial interests in a registered global security will be limited to persons, called participants, that have accounts with the depositary or persons that may hold interests through participants. Upon the issuance of a registered global security, the depositary will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a registered global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depositary, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in registered global securities.

So long as the depositary, or its nominee, is the registered owner of a registered global security, that depositary or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the registered global security for all purposes under the applicable indenture, warrant agreement or unit agreement. Except as described below, owners of beneficial interests in a registered global security will not be entitled to have the securities represented by the registered global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture, warrant agreement or unit agreement. Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depositary for that registered global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture, warrant agreement or unit agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security

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desires to give or take any action that a holder is entitled to give or take under the applicable indenture, warrant agreement or unit agreement, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, and interest payments on debt securities, and any payments to holders with respect to warrants, or units, represented by a registered global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the registered global security. None of us, the trustees, the warrant agents, the unit agents or any other agent of ours, agent of the trustees or agent of the warrant agents or unit agents will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a registered global security, upon receipt of any payment to holders of principal, premium, interest or other distribution of underlying securities or other property on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that registered global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers or registered in "street name," and will be the responsibility of those participants.

If the depository for any of the securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act, and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the registered global security that had been held by the depository. Any securities issued in definitive form in exchange for a registered global security will be registered in the name or names that the depository gives to the relevant trustee, warrant agent, unit agent or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the registered global security that had been held by the depository.

USE OF PROCEEDS

Except as described in any prospectus supplement or in any related free writing prospectus that we may authorize to be provided to you, the net proceeds received by us from our sale of the securities described in this prospectus will be added to our general funds and will be used for our general corporate purposes. From time to time, we may engage in additional public or private financings of a character and amount which we may deem appropriate.

PLAN OF DISTRIBUTION

We may sell securities through any one or more of the following methods from time to time:

- to or through underwriters, brokers or dealers;
- through agents;
- directly to one or more other purchasers in negotiated sales or competitively bid transactions;
- through a block trade in which the broker or dealer engaged to handle the block trade will attempt to sell the securities as agent, but may position and resell a portion of the block as principal to facilitate the transaction; or
- through a combination of any of the above methods of sale.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price, or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

If a dealer is utilized in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

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Agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Certain agents, underwriters and dealers, and their associates and affiliates may be customers of, have borrowing relationships with, engage in other transactions with, or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may over allot in connection with the offering, creating a short position for their own accounts. In addition, to cover over allotments or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

In compliance with the guidelines of the Financial Industry Regulatory Authority, or FINRA, the aggregate maximum discount, commission or agency fees or other items constituting underwriting compensation to be received by any FINRA member or independent broker-dealer will not exceed 8% of the proceeds from any offering pursuant to this prospectus and any applicable prospectus supplement.

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LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon by Goodwin Procter LLP, Boston, Massachusetts.

EXPERTS

The consolidated financial statements of Repligen Corporation appearing in Repligen Corporation's Annual Report (Form 10-K) for the year ended December 31, 2018, and the effectiveness of Repligen Corporation's internal control over financial reporting as of December 31, 2018 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

\$250,000,000



Repligen Corporation

% Convertible Senior Notes due 2024

PROSPECTUS SUPPLEMENT

Sole Book-Running Manager

J.P. Morgan

, 2019