CHARLES RIVER LABORATORIES INTERNATIONAL INC
Form 10-K
February 13, 2018

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

FORM 10-K

(Mark One)

ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 30, 2017

OR

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM TO

Commission File No. 001-15943

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	06-1397316
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
251 Ballardvale Street Wilmington, Massachusetts	01887
(Address of Principal Executive Offices)	(Zip Code)

(Registrant's telephone number, including area code): (781) 222-6000

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

Title of each class	Name of each exchange on which registered
Common Stock, $0.01 par value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No ý

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files.) Yes ý No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ý

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer”, “smaller reporting company”, and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer ý	Accelerated filer o	Non-accelerated filer o (Do not check if smaller reporting company)
Smaller reporting company o	Emerging growth company o	

If an emerging growth company, indicate by a check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No ý

On July 1, 2017, the aggregate market value of the Registrant's voting common stock held by non-affiliates of the Registrant was approximately $4,728,183,315. As of January 26, 2018, there were 47,428,916 shares of the Registrant's common stock outstanding, $0.01 par value per share.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive Proxy Statement for its 2018 Annual Meeting of Shareholders scheduled to be held on May 8, 2018, which will be filed with the Securities and Exchange Commission (SEC) not later than 120 days after December 30, 2017, are incorporated by reference into Part III of this Annual Report on Form 10-K. With the exception of the portions of the 2018 Proxy Statement expressly incorporated into this Annual Report on Form 10-K by reference, such document shall not be deemed filed as part of this Form 10-K.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
ANNUAL REPORT ON FORM 10-K
FOR FISCAL YEAR 2017

TABLE OF CONTENTS

PART I

Item 1. Business

General

This Annual Report on Form 10-K contains forward-looking statements regarding future events and the future results of Charles River Laboratories International, Inc. that are based on our current expectations, estimates, forecasts and projections about the industries in which we operate and the beliefs and assumptions of our management. Words such as “expect,” “anticipate,” “target,” “goal,” “project,” “intend,” “plan,” “believe,” “seek,” “estimate,” “will,” “likely,” “may,” “future,” “can,” “could” and other similar expressions that are predictions, indicate future events and trends or which do not relate to historical matters are intended to identify such forward-looking statements. These statements are based on our current expectations and beliefs and involve a number of risks, uncertainties and assumptions that are difficult to predict. For example, we may use forward-looking statements when addressing topics such as: goodwill and asset impairments still under review; future demand for drug discovery and development products and services, including the outsourcing of these services; our expectations regarding stock repurchases, including the number of shares to be repurchased, expected timing and duration, the amount of capital that may be expended and the treatment of repurchased shares; present spending trends and other cost reduction activities by our clients; future actions by our management; the outcome of contingencies; changes in our business strategy, business practices and methods of generating revenue; the development and performance of our services and products; market and industry conditions, including competitive and pricing trends; our strategic relationships with leading pharmaceutical companies and venture capital limited partnerships, and opportunities for future similar arrangements; our cost structure; the impact of completed and in-process acquisitions (including Argenta, BioFocus, VivoPath, ChanTest, Sunrise, Celsis, Oncotest, WIL Research, Blue Stream, Agilux, Brains On-Line, KWS BioTest, and MPI Research) and the timing of closing of in-process acquisitions; our expectations with respect to revenue growth and operating synergies (including the impact of specific actions intended to cause related improvements); the impact of specific actions intended to improve overall operating efficiencies and profitability (and our ability to accommodate future demand with our infrastructure), including gains and losses attributable to businesses we plan to close, consolidate or divest; changes in our expectations regarding future stock option, restricted stock, performance share units and other equity grants to employees and directors; expectations with respect to foreign currency exchange; assessing (or changing our assessment of) our tax positions for financial statement purposes; and our liquidity. In addition, these statements include the impact of economic and market conditions on us and our clients; the effects of our cost-saving actions and the steps to optimize returns to shareholders on an effective and timely basis.

You should not rely on forward-looking statements because they are predictions and are subject to risks, uncertainties and assumptions that are difficult to predict. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this document or in the case of statements incorporated by reference, on the date of the document incorporated by reference. Factors that might cause or contribute to such differences include, but are not limited to, those discussed in this Form 10-K under the sections entitled “Our Strategy,” “Risk Factors,” "Management's Discussion and Analysis of Financial Condition and Results of Operations,” in our press releases and other financial filings with the SEC. We have no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or risks. New information, future events or risks may cause the forward-looking events we discuss in this report not to occur.

Corporate History

We began operating in 1947 and since then, we have undergone several changes to our business structure. Charles River Laboratories International, Inc. was incorporated in 1994 and in 2000 we completed our initial public offering. Our stock is traded on the New York Stock Exchange under the symbol “CRL” and is included in the Standard & Poor's MidCap 400, 1000 and Composite 1500 indices, the Dow Jones U.S. Health Care Index, the NYSE Arca Biotechnology Index, the NYSE Composite, and many of the Russell indices, among others. We are headquartered in Wilmington, Massachusetts. Our headquarters mailing address is 251 Ballardvale Street, Wilmington, MA, 01887, and the telephone number at that location is (781) 222-6000. Our Internet site is www.criver.com. Material contained

on our Internet site is not incorporated by reference into this Form 10-K. Unless the context otherwise requires, references in this Form 10-K to “Charles River,” “we,” “us” “the Company” or “our” refer to Charles River Laboratories International, Inc. and its subsidiaries.

This Form 10-K, as well as all other reports filed with the SEC, is available free of charge through the Investor Relations section of our Internet site as soon as practicable after we electronically file such material with, or furnish it to, the SEC. You may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington,

DC 20549. In addition, you may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site (http://www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

Overview

We are a full service, early-stage contract research organization (CRO). We have built upon our core competency of laboratory animal medicine and science (research model technologies) to develop a diverse portfolio of discovery and safety assessment services, both Good Laboratory Practice (GLP) and non-GLP, which is able to support our clients from target identification through non-clinical development. We also provide a suite of products and services to support our clients' manufacturing activities. Utilizing our broad portfolio of products and services enables our clients to create a more flexible drug development model, which reduces their costs, enhances their productivity and effectiveness, and increases speed to market.

Discovery represents the earliest stages of research in the life sciences, directed at the identification, screening, and selection of a lead molecule for future drug development. Discovery activities typically extend anywhere from 4 to 6 years in conventional pharmaceutical research and development timelines.

Development activities, which follow, and which can take up to 7 to 10 years, are directed at demonstrating the safety, tolerability, and clinical efficacy of the selected drug candidates. During the non-clinical stage of the development process, a drug candidate is tested in vitro (non-animal, typically on a cellular or sub-cellular level in a test tube or multi-well petri plate) and in vivo (in research models) to support planned or on-going human clinical trials.

The development of new drugs requires the steadily increasing investment of time and money. Various studies and reports estimate that it takes between 10 to 15 years, up to $2.0 billion excluding time costs, and exploration of between 10,000 and 15,000 drug molecules to produce a single Food and Drug Administration (FDA)-approved drug. We are positioned to leverage our leading portfolio in early-stage drug research in an efficient and cost-effective way to aid our clients in bringing their drugs to market faster.

For over 70 years, we have been in the business of providing the research models required in research and development of new drugs, devices, and therapies. Over this time, we have built upon our core competency of in vivo biology to develop a diverse and expanding portfolio of products and services, which now encompasses the broader early-stage drug research process. Our client base includes global pharmaceutical companies, biotechnology companies, government agencies, and hospitals and academic institutions around the world. We currently operate approximately 80 facilities in 23 countries worldwide, which numbers exclude our Insourcing Solutions (IS) sites. Our products and services, supported by our global infrastructure and deep scientific expertise, enable our clients to overcome many of the challenges of early-stage life sciences research. In 2017, our total revenue was $1.9 billion and our operating income from continuing operations, before income taxes, was $297.0 million.

We have three reporting segments: Research Models and Services (RMS), Discovery and Safety Assessment (DSA), and Manufacturing Support (Manufacturing).

Through our RMS segment, we have been supplying research models to the drug development industry since 1947. With over 150 different strains, we continue to maintain our position as a global leader in the production and sale of the most widely used rodent research model strains, principally genetically and microbiologically defined purpose-bred rats and mice. We also provide a variety of related services that are designed to assist our clients in supporting the use of research models in drug discovery and development. We maintain multiple production centers, including barrier rooms and/or isolator facilities, on three continents (North America, Europe, and Asia). In 2017, RMS accounted for 26.6% of our total revenue and approximately 3,200 of our employees, including approximately 100 science professionals with advanced degrees.

Our DSA business segment provides services that enable our clients to outsource their innovative drug discovery research, their related drug development activities, and their regulatory-required regulatory safety testing of potential new drugs, industrial and agricultural chemicals and medical devices to us. The demand for these services has historically been driven by the needs of large global pharmaceutical companies that have exceeded their internal capacity and by the needs of biotechnology companies and non-governmental organizations (NGOs) who traditionally outsourced most of their discovery, development and safety testing programs. Global pharmaceutical, biotechnology,

and chemical companies choose to outsource their discovery, development, and safety activities because outsourcing reduces the significant investment in personnel and facilities and capital resources necessary to efficiently and effectively conduct required scientific studies. Additionally, outsourcing to Charles River provides companies access to scientific expertise that they may not have internally or otherwise available to them.

We are the largest provider of drug discovery, non-clinical development, and safety testing services worldwide and offer a comprehensive portfolio of services required for regulatory submission of pharmaceuticals, and industrial and agricultural

chemicals. We have extensive expertise in the discovery of small molecule clinical candidates and in the design, execution, and reporting of safety assessment studies for numerous types of compounds including small and large molecule pharmaceuticals, industrial and agricultural chemicals, biocides and medical devices. We currently provide discovery and safety assessment services at multiple facilities located in the United States (U.S.), Canada, and Europe. Our DSA segment represented 52.8% of our total revenue in 2017 and employed approximately 6,400 of our employees including approximately 1,000 science professionals with advanced degrees.

Through our Manufacturing segment, we help ensure the safe production and release of products manufactured by our clients. Our Microbial Solutions business provides in vitro methods for conventional and rapid quality control testing of sterile and non-sterile pharmaceuticals and consumer products. Our Biologics Testing Solutions business provides specialized testing of biologics and devices frequently outsourced by global pharmaceutical and biotechnology companies. Our Avian Vaccine Services business provides specific-pathogen-free (SPF) fertile chicken eggs, SPF chickens and diagnostic products used to manufacture vaccines.

In 2017, Manufacturing accounted for 20.7% of our total revenue from continuing operations and approximately 1,500 of our employees, including approximately 100 science professionals with advanced degrees.

In recent years, we have focused our efforts on improving the efficiency of our global operations to enhance our ability to support our key clients. Our key pharmaceutical and biotechnology clients are increasingly seeking full service, “one-stop” global partners to whom they can outsource more of their drug discovery and development efforts. It is estimated that the market for regulated safety assessment services is at least 50% outsourced, while emerging growth areas such as early and in vivo discovery and certain research model services are currently believed to be less outsourced.

Research Models and Services (RMS). Our RMS segment is comprised of (1) Research Models and (2) Research Model Services.

Research Models. Our Research Models business is comprised of the production and sale of research models.

Research Models. A significant portion of this business involves the commercial production and sale of research models, principally purpose-bred rats and mice for use by researchers. We provide our rodent models to numerous clients around the world, including most pharmaceutical companies, a broad range of biotechnology companies, and many government agencies, hospitals, and academic institutions. We have a global footprint with production facilities strategically located in 8 countries, in close proximity to our clients. Our research models include standard stocks and strains and disease models such as those with compromised immune systems, which are in demand as early-stage research tools. The FDA and foreign regulatory agencies typically require that the safety and efficacy of new drug candidates be tested on research models like ours prior to testing in humans. As a result, our research models are an essential part of the drug discovery and development process.

Our rodent species have been, and continue to be, some of the most extensively used research models in the world, largely as a result of our geographic footprint and continuous commitment to innovation and quality. Our research models are bred and maintained in controlled environments, which are designed to ensure that the models are free of specific viral and bacterial agents and other contaminants that can disrupt research operations and distort research results. With our production capabilities, we are able to deliver consistently high-quality research models worldwide.

Our research models include:

- outbred, which are purposefully bred for heterogeneity;
- inbred, which are bred to be homogeneous;
- spontaneous mutant, whose genotype results in a naturally occurring genetic mutation (such as immune deficiency);
- hybrid, which are the offspring of two different inbred parents; and
- other genetically modified research models, such as knock-out models with one or more disabled genes and transgenic models.

Certain of our research models are proprietary rodent models used to research treatments for diseases such as diabetes, obesity, cardiovascular, cancer and kidney disease.

We are also a premier provider of high quality, purpose bred, SPF large research models to the biomedical research community.

3

Research Model Services. RMS also offers a variety of services designed to support our clients' use of research models in basic research and screening non-clinical drug candidates. These services address the need among pharmaceutical and biotechnology companies to outsource the non-core aspects of their drug discovery activities. Our services include those which are related to the maintenance and monitoring of research models, and managing research operations for government entities, academic organizations, and commercial clients. We currently have three service offerings in research models services: Genetically Engineered Models and Services, Insourcing Solutions, and Research Animal Diagnostic Services.

Genetically Engineered Models and Services (GEMS). We create, breed and maintain research models required by our clients for biomedical research activities. The creation of a genetically engineered model (GEM) is a critical scientific event, but it is only the first step in the discovery process, and our scientists can advise clients on how to efficiently create custom models utilizing together with in-licensed technologies and approaches to modify the genome. Through our phenotyping platforms we can also design and conduct the relevant studies and tests
allowing characterization of the generated models. Productive utilization of GEMs requires significant additional technical expertise in order to properly support basic and early discovery research. We provide breeding expertise and colony development, quarantine, health and genetic testing and monitoring, germplasm cryopreservation, and rederivation including assisted reproduction and model creation. Our team of project managers is supported by a technologically advanced Internet Colony Management (ICM™) system that allows for real-time data exchange. We provide these services to clients around the world, including pharmaceutical and biotechnology companies, hospitals, universities, and government agencies.

Insourcing Solutions (IS). We manage research operations (including recruitment, training, staffing, and management services) for government entities, academic organizations, and commercial clients. Some research institutions prefer to retain certain elements of their research in-house, while outsourcing staffing and management, thus driving demand for our services. We believe that our expertise in early-stage drug research, and in particular research model care, scientific and technical support, facility operations, and discovery and development services, enhances the productivity and quality of our clients' research programs.

Research Animal Diagnostic Services (RADS). We monitor and analyze the health profiles of our clients’ research models and research biologics by providing infectious agents and pathology assessment. We developed this capability internally in order to address the quality control of our research model business. We are able to serve as our clients’ sole-source testing laboratory, or as an alternative source supporting our clients’ internal laboratory capabilities. We believe we are the reference laboratory of choice for health assessment of laboratory research models and an industry leader in the field of laboratory animal diagnostics.

Discovery and Safety Assessment (DSA)

We currently offer discovery and safety assessment services, both regulated and non-regulated, in which we include both in vitro and in vivo studies, supporting laboratory services, and strategic non-clinical consulting and program management to support product development.

Discovery Services. We offer a full spectrum of discovery services from identification of a novel druggable target, followed by high-throughput screening and medicinal chemistry, through delivery of non-clinical drug and therapeutic candidates ready for safety assessment. Our Early Discovery and In Vivo Discovery businesses are integrated into a single business line - Discovery Services - as evidence of our efforts to streamline and enhance the support we can provide for clients’ integrated drug discovery programs. One seamless discovery organization allows us to better engage with clients at the earliest stages of drug discovery and support their complex scientific needs. We support a variety of therapeutic areas including oncology, central nervous system, bone and musculoskeletal, inflammation, metabolic diseases, respiratory and fibrotic diseases, cardiovascular, gastrointestinal, genito-urinary, anti-infectives, and ophthalmology. We also provide expertise in the growing area of rare and orphan diseases, which are typically diseases of high unmet medical need in smaller patient populations, such as myotonic dystrophy, cystic fibrosis, and Huntington’s Disease. We believe there are emerging opportunities to assist our clients in a variety of drug discovery applications and platforms from target discovery to candidate selection.

Early Discovery. We are a global leader in integrated drug discovery services, with a predominant focus on in vitro biology capabilities and medicinal chemistry. Our knowledge and expertise allow us to support our clients as they drive their molecules forward through design and implementation of clear program plans. Our full suite of service offerings allows us to support our clients at the earliest stages of their research, and to stay with them through the entire early-stage process. Our Early Discovery service capabilities include: target discovery and validation (which includes custom in vivo and in vitro genome editing), hit identification, medicinal chemistry, scale-up chemistry and testing how a drug is absorbed, distributed in the body, metabolized, and excreted (ADME). We also offer ion channel testing for both discovery and non-clinical purposes. Our genome editing capabilities enable us to develop more translational research models designed to enhance scientific understanding and improve

the efficiency and effectiveness of the drug discovery process. These services extend from the early discovery screening process through to in vitro GLP safety assessment testing. In addition to providing these services to our clients at our research laboratories, we also provide some of these services at our clients' laboratories with Charles River scientists as an in-sourcing service model.

In Vivo Discovery Services. In Vivo Discovery Services are essential in early stage, non-clinical discovery, directed at the identification, screening, and selection of a lead compound for drug development. In vivo activities typically extend anywhere from 4 to 6 years in conventional pharmaceutical research and development timelines. We offer research and development expertise, capabilities, and services globally to accelerate our clients' drug discovery pipelines from lead generation to candidate selection and on occasion, complete in vivo studies in support of clinical efforts or post-marketing work. We complement and extend clients' capabilities and expertise to improve their decision-making, increase their flexibility, and reduce their internal costs and product development timelines. In addition, we provide in vitro and in vivo assays in support of lead optimization to candidate selection activities. Examples of this include early pharmacokinetic and pharmacodynamic studies and in vitro and in vivo assays to assess mechanism, bioavailability, metabolism, efficacy, and safety pharmacology.

In August 2017, we acquired Brains On-Line (BOL), a leading CRO that provides critical data that advances novel therapeutics for the treatment of central nervous system (CNS) diseases. This acquisition strategically expands our existing CNS capabilities and establishes us as a single-source provider for a broad portfolio of discovery CNS services. In January 2018, we acquired KWS BioTest (KWS), a leading CRO specializing in in vitro and in vivo discovery testing services for immuno-oncology and inflammatory and infectious diseases. The addition of KWS enhances our discovery expertise, with complementary offerings that provide our clients with additional tools in the active therapeutic research areas of oncology and immunology.

Safety Assessment. We offer a full range of safety assessment studies required for regulatory submission on a global basis.

Bioanalysis, Drug Metabolism and Pharmacokinetics. In support of non-clinical drug safety testing, our clients are required to demonstrate appropriate stability in the collected biological sample, pharmacokinetics of their drug or compound in circulation, the presence of metabolites, and, with biologics, the presence or absence of anti-drug antibodies. We have scientific depth in the sophisticated bioanalytical techniques required to satisfy these requirements for a number of drug classes. Once the analysis is complete, our scientists evaluate the data to provide information on the pharmacokinetics and/or toxicokinetics of the drug, and complete an evaluation of the biologic disposition of the drug and its potential metabolites. Pharmacokinetics refers to the understanding of what the body does to a drug or compound administered at therapeutic dose levels, including the process by which the drug is absorbed, distributed in the body, metabolized and excreted (ADME). Toxicokinetics refers to the same understanding as applied at higher doses that may result in adverse effects. These studies are required for the full non-clinical assessment of the disposition of the drug and the results are used in the final non-clinical safety evaluation of the compound to support the start of clinical trials. After performing sample analysis in support of non-clinical studies, we also have the capabilities to capture the benefits of bridging the non-clinical bioanalysis with subsequent clinical development.

Safety Pharmacology. In support of non-clinical drug safety testing, our clients are required to demonstrate that the test article as formulated does not have the potential to prolong the cardiac QT interval, effects on CNS and respiratory system. We have the assays (both in vitro and in vivo) and can perform the screening for this demonstration that is required prior to the commencement of clinical trials.

Toxicology. We have expertise in the design and execution of development programs in support of chemically-derived (small molecule) and biotechnology-derived (large molecule) pharmaceuticals. We also support safety studies to test chemicals, industrial chemical, agrochemicals and medical devices. For human pharmaceutical candidates, once a lead molecule is selected, toxicology studies are required to support clinical trials in humans and new drug registrations. These toxicology studies focus on assessing the safety of the molecule to determine if administration of the molecules to humans might cause any unintended harmful effects. For industrial chemicals and agrochemicals, safety studies are performed to identify potential risks to humans and the environment and are required

for regulatory registration. Toxicology studies performed for any of these compounds are typically performed using in vitro and in vivo research models to identify any potential adverse effects that a compound has on an organism over a variety of doses and over various time periods.

Our toxicology services feature:

- a broad offering of in vitro and in vivo capabilities and study types designed to identify possible safety risks for potential human and animal therapeutics, industrial chemicals and agrochemicals as they progress from discovery to regulatory registration;

- a broad offering of in vitro and in vivo studies in support of general toxicology (acute, sub-acute, and chronic studies), genetic toxicology, safety pharmacology, and carcinogenicity bioassays that are required for regulatory submissions supporting “first-in-human” to “first-to-the-market” strategies for potential human therapeutics;
- a broad offering of in vitro and in vivo studies in support of general toxicology (acute, sub-acute, and chronic studies), genetic toxicology, reproductive and developmental toxicology, environmental toxicology, and carcinogenicity bioassays that are required for regulatory submissions supporting the registration of industrial chemicals, agrochemicals, and biocides;
- expertise in standard and specialty routes of administration (e.g., infusion, intravitreal, intrathecal, and inhalation) that are important not only for the testing of potential pharmaceuticals and biopharmaceuticals, but also for the safety testing of medical devices, nutraceuticals, animal health products, and other materials;
- expertise in the conduct and assessment of reproductive, developmental, and juvenile toxicology studies (in support of larger-scale and later-stage human clinical trials or chemical registration);
- expertise in environmental toxicology (aquatic and terrestrial) and regulatory submissions required for chemical registration;
- services in important specialty areas such as ocular, bone, juvenile/neonatal, immune-toxicology, photobiology, inhalation, and dermal testing;
- expertise in all major therapeutic areas;
- study design and strategic advice to our clients based on our wealth of experience and scientific expertise in support of drug development and chemical registration; and
- a strong history of assisting our clients in achieving their regulatory and/or internal milestones for the safety testing of numerous therapy types including stem cells, vaccines, proteins, antibodies, drug conjugates, oligonucleotide biotherapeutics, small molecules, medical devices, chemicals, and agrochemicals.

Our safety assessment facilities comply with GLP to the extent required by the FDA, Environmental Protection Agency, USDA, European Medicines Agency, European Chemicals Agency, Organization for Economic Co-operation and Development (OECD), as well as other international regulatory agencies. Furthermore, our early-stage discovery work, which is not subject to GLP standards, is typically carried out under a quality management system such as ISO 9100 or similarly constructed internally developed quality systems. Our facilities are regularly inspected by U.S. and other regulatory compliance monitoring authorities, our clients' quality assurance departments, and our own internal quality assessment program.

Pathology Services. The ability to identify and characterize clinical and anatomic pathologic changes is critical in determining the safety and efficacy of potential new therapeutics and industrial and agriculture chemicals and medical devices. Key “go/no-go” decisions regarding continued product development are typically dependent on the identification, characterization and evaluation of fluid, tissue, and cellular changes that our experts identify and interpret for our clients. We employ a large number of highly trained veterinary anatomic and clinical pathologists and other scientists who use state-of-the-art techniques to identify potential test compound-related changes within tissues, fluids, and cells. In addition to all standard anatomic and clinical pathology techniques, we provide specialized evaluations such as cytology, platelet function, assay development, immunohistochemistry, in situ hybridization electron microscopy, tissue morphometry, and stereology services.

Manufacturing Support (Manufacturing)

Microbial Solutions. Our Microbial Solutions business provides in vitro methods for conventional and rapid quality control testing of sterile and non-sterile biopharmaceutical and consumer products. Our legacy Endosafe business provides lot release testing of medical devices and injectable drugs for endotoxin contamination. Our Celsis business provides rapid microbial detection systems for quality control testing in the pharmaceutical and consumer products industries. Our Accugenix business provides state-of-the-art microbial identification and genetic sequencing services for manufacturing in the biopharmaceutical, medical device, nutraceutical, and consumer care industries.

Endotoxin testing is an in vitro process which uses a processed extract from the raw materials of the horseshoe crab, known as limulus amebocyte lysate (LAL). The LAL test is the first and most successful FDA-validated alternative to an in vivo test to date. The extraction of the raw materials for LAL does not harm the crabs, which are subsequently

returned to their natural ocean environment. Our Microbial Solutions business produces and distributes a comprehensive portfolio of endotoxin testing, microbial detection and identification kits, reagents, software, accessories, instruments, and associated microbial quality control

laboratory services to a broad range of companies manufacturing and releasing products from the pharmaceutical, biotechnology, consumer products, and dairy industries worldwide. We are a market leader in endotoxin testing products and services, which are used for FDA-required quality control testing of injectable drugs and medical devices, their components, and the processes by which they are manufactured.

The growth in our Microbial Solutions business is driven by our FDA-approved line of next-generation endotoxin testing products. This line is based on the Endosafe Portable Testing System (Endosafe®-PTS™) technology, which allows rapid endotoxin testing in the central laboratory or manufacturing environment. In recent years, we expanded the PTS product portfolio to include a multiple sample testing system known as the Endosafe®-MCS™ (multi-cartridge system) and the first fully automated robotic system developed specifically for high-volume endotoxin testing, Endosafe®-Nexus, to satisfy the demand of our clients who require higher sample throughput. We expect to see expanded use of this rapid endotoxin testing technology as clients transition from traditional methods to our rapid cartridge technology. In 2017, we launched our Cortex software that provides an integrated solution to securely consolidate, query and analyze data.

Celsis' systems are principally used for product-release testing to help ensure the safe manufacture of pharmaceutical and consumer products. The Advance II™, Accel™ and Innovate™ systems for non-sterile applications complement our PTS-Micro™, a rapid bacterial (bioburden) detection system for sterile biopharmaceutical applications. We expect our comprehensive portfolio to drive increased adoption of our quality control testing solutions across both sterile and non-sterile applications.

Our Accugenix global lab network is the premier provider of current Good Manufacturing Practice (cGMP)-compliant contract microbial identification services. Accugenix is an acknowledged industry leader in species-level identification and strain typing of bacteria and fungi that are recovered from manufacturing facilities. Utilizing state-of-the-art and proprietary technologies, coupled with scientific expertise and analysis, Accugenix excels in providing accurate, timely, and cost-effective microbial identification services required to meet internal quality standards and government regulations.

Biologics Testing Solutions. We perform specialized testing of biologics frequently outsourced by global pharmaceutical and biotechnology companies. Our laboratories in the U.S., Germany, Scotland, Ireland, and France provide timely and regulatory-compliant services in the areas of analytical, molecular biology, virology, bioanalysis, immunochemistry, microbiology, cell biology, in vivo studies and related services. We confirm that biomanufacturing processes for drug candidates and drugs produced are consistent, correctly defined, stable, and essentially contaminant free. This testing is required by the FDA, EMA and other international regulatory authorities for our clients to obtain new drug approvals, to maintain government-licensed manufacturing facilities, and to manufacture and release market-approved therapeutic products for patient treatment.

Our manufacturing services group grows and stores well-characterized early-stage client cell lines for later development or manufacture of therapeutic proteins and vaccines for clinical trials. We further design and provide viral clearance projects for Phase I, II, and III studies in our German and U.S. facilities.

Avian Vaccine Services. We are the global leader for the supply of SPF fertile chicken eggs and chickens. SPF chicken embryos are used by vaccine producers as self-contained "bioreactors" for the manufacture of live viruses. These viruses are used as a raw material for human and veterinary vaccine applications. The production of SPF eggs is performed under biosecure conditions, similar in many ways to our research model production. We have a worldwide presence, with several SPF egg production facilities in the U.S., and contracted production capabilities in Hungary. We also operate a specialized avian laboratory in the U.S., which provides in-house quality control testing of the SPF flocks, offers testing services to vaccine companies and commercial poultry operations, and manufactures poultry diagnostics and bulk antigens for poultry vaccines.

Our Strategy

Our objective is to be the preferred strategic global partner for our clients. Our strategy is to deliver a comprehensive and integrated portfolio of drug discovery and non-clinical development products, services, and solutions to support our clients' discovery and early-stage drug research, process development, scale up, and manufacturing efforts, and enable them to bring new and improved therapies to market faster and more cost effectively. In addition, we believe

we can improve and augment drug discovery and early-stage development effectiveness by coordinating the dialog between large pharmaceutical, biotechnology, academic and non-governmental organizations, and venture capitalists. Separately, through our various Manufacturing segment businesses, we aim to be the premier provider of products and services that ensure our clients produce and release their products safely. As these groups increasingly rely on and interact with one another in this field, we assist them in working together by developing deeper strategic relationships with each of these constituencies.

We believe we have certain competitive advantages in executing this strategy, as a result of our continuing focus on the following:

Integrated Early-Stage Portfolio. We are the only large, global CRO with a portfolio of products, services, and solutions that focuses on drug discovery and early-stage development. We provide research models and associated services, discovery research studies and services, and comprehensive safety assessment studies in both regulated and non-regulated environments. As such, we are able to collaborate with clients from target discovery through candidate selection. When critical decisions are made regarding which therapeutics will progress from discovery to development, we continue to work alongside our clients as the drug candidates move downstream. Our recognized expertise in early-stage drug research and pharmacology provides us with a competitive advantage. We understand our clients' therapies and the challenges they face during the discovery and development process, including mechanism of action, efficacy, drug metabolism, safety assessment, and toxicological testing critical for making “go/no-go” decisions.

Pharmaceutical Manufacturing Support Portfolio. We also offer a portfolio of products, services, and solutions that supports the process development, scale up, and quality control efforts of the biopharmaceutical industry. We provide products and services that support the development and release of commercialized biologics products. In particular, we are an industry leader in the areas of microbial detection and microbial identification to support process development and ongoing commercial production. Our portfolio spans a broad range of traditional and rapid methods, which provide the highest testing quality, enhance productivity, and reduce cycle time.

Deep Scientific Expertise. We provide a breadth and depth of scientific expertise across a broad range of therapeutic areas which may be too costly for our clients to build and/or maintain in-house. We provide essential capabilities, including biomarkers, biologics, medicinal chemistry, in vitro screening, in vivo pharmacology, immunology, pathology, biologics process development testing, microbial detection and identification, and other specialty service areas that have high infrastructure costs or are cost-prohibitive for clients to maintain in-house. We continue to expand our portfolio in key therapeutic and pharmacology areas to align with our clients' internal drug discovery and development areas of focus. These areas of disease focus and expertise include oncology, metabolism and obesity, immunology, respiratory, bone and musculoskeletal, diabetes, cardiovascular, ophthalmology, and central nervous system. In the areas of functional expertise, it includes synthetic and medicinal chemistry, cell line development, in vitro and in vivo assay development screening, non-clinical imaging, structural biology, process chemistry, toxicology, veterinary pathology, bioanalysis, scale up, and formulation development. We also continue to enhance our small molecule and biologics manufacturing portfolio in areas of greatest industry need, where outsourcing provides major benefits for our clients and where we could provide significant benefits given our unique early development portfolio and global footprint.

Commitment to Animal Welfare. We are committed to being the worldwide leader in the humane care of laboratory animals and implementation of the “3Rs” (Replacement, Reduction, and Refinement). As researchers, we are responsible to our clients and the public for the health and well-being of the animals in our care. We work hand-in-hand with the scientific community to understand how living conditions, handling procedures, and reduction of stress play an important role in the quality and efficiency of research.

Superior Quality and Client Support. We maintain scientific rigor and high quality standards through management of key performance indicators and an intense focus on biosecurity. These standards allow clients to access our global portfolio of products and services with the confidence that they will obtain consistent results no matter where they choose to obtain their products or conduct their research.

Flexible and Customized Environment to Provide the Right Solutions. Each of our clients is different, with unique needs and specific requirements. We understand the importance of flexibility, and leverage the expertise embedded in our integrated early-stage portfolio to provide customized solutions tailored to the specific need or therapeutic area for a particular client. By utilizing our streamlined and efficient facilities, we help clients create a flexible infrastructure in order to improve their workload and staffing requirements. This allows our clients to reduce internal capacity and/or staff. We provide enhanced value to clients who use us as a full-service integrated partner over a longer period of time.

Large, Global Partner. We believe there is a particular advantage in being a full service, high-quality provider of research models and associated services, discovery and non-clinical in vivo and in vitro services, and manufacturing support on a global scale. Many of our clients, especially large biopharmaceutical companies, have decided to limit the number of suppliers with which they work. Their preference is to partner with large Tier 1 CROs like Charles River, who can offer clients support across the early-stage drug research process as a result of broader portfolios and

experience in project management. This includes extensive scientific, technical, and therapeutic area expertise, real-time access to data through secure portals, a global footprint, and streamlined and simplified processes and communications including professional project and relationship management. We are focused on leveraging our competitive advantages to ensure we are recognized as the premier preferred provider, thereby enabling us to build broader and deeper long-term strategic relationships with our clients.

Global biopharmaceutical companies are continuing to make the decision to outsource more significant tranches of their drug discovery, development, and manufacturing processes. Over the past few years we have entered into strategic relationships with leading global biopharmaceutical companies and expanded existing preferred provider agreements with other leading global biopharmaceutical companies. For example, during the past year:

- We launched a multi-year strategic partnership with Nimbus Therapeutics to advance new programs spanning the disease areas of immunology, metabolic disorders and oncology from the discovery phase through to Investigational New Drug submission.
- We extended our longstanding, strategic, integrated drug discovery partnership with Chiesi Farmaceutici SpA in the field of respiratory disease. Through this continued partnership, we provide Chiesi an extensive portfolio of integrated drug discovery capabilities, including medicinal chemistry, ADME/DMPK studies, pharmaceuticals, in vitro assays, in vivo models and safety pharmacology studies to help identify and test Chiesi’s candidates for preclinical development.

For some of our partners, we provide a broad suite of research models and discovery and safety assessment services and for others we provide a customized and select array of discovery and safety assessment services and/or research models. Offering flexibility enables our clients to utilize our products and services to deliver innovative health solutions in a manner which best suits their individual needs.

There have been fundamental changes in our clients' research and development needs, particularly with regard to the large pharmaceutical industry. First, these clients are increasingly emphasizing studies that have greater translation to the clinic so that they can make appropriate decisions regarding the progression of potential therapeutic entities earlier in the development process. The result is a greater focus on discovery services, including in vivo pharmacology studies consisting of efficacy and non-GLP DMPK (drug metabolism and pharmacokinetics) studies. Second, these clients are choosing to outsource additional discovery and safety assessment services in order to increase the efficiency and effectiveness of their drug selection processes.

We believe that this changing environment will provide enhanced outsourcing opportunities for us in the future. We remain optimistic that our clients are increasingly receptive to partnering with CROs as a means of meeting their discovery and non-clinical support needs. We believe that the successful development of new therapies and outsourcing by the pharmaceutical industry will continue to be positive drivers of demand for our products and services.

We also believe that larger biopharmaceutical companies will increasingly focus on efficiencies and execution. They will continue to reassess what are core differentiators from research and development to commercialization. We expect they will also continue to be conservative in re-building infrastructure and expertise. This should lead to more opportunities for strategic outsourcing as clients choose to utilize external resources rather than invest in internal infrastructure. In the aggregate, we believe that the evolving large biopharmaceutical research and development business model will make our essential products and services even more relevant to our clients, and allow them to leverage our integrated offerings and expertise to drive their research, non-clinical development, and manufacturing efficiency and cost effectiveness.

We believe it is critical to participate in the strategic partnering process because these relationships are likely to extend for lengthy periods of time - three to five years. Furthermore, both the client and the CRO invest heavily in the initial phases of the relationship to successfully transfer work streams and establish governance processes. Given this investment, clients are less likely to change CROs at the conclusion of the initial relationship. Our goal is to prevail in the majority of these opportunities.

We also believe that our portfolio provides flexible solutions that meet the customized needs for virtual and small biotechnology companies, which have limited or no infrastructure. These clients also value our ability to provide a

broad range of services and integrated services where we work hand in hand with our customers to design, plan, and manage integrated projects and programs. This includes classically outsourced services, “insourced” services, and hybrid offerings blending resources from both our clients and our staff. Our clients have utilized this capability, which blends resources both inside and outside their walls.

We maintain an intense focus on initiatives designed to allow us to drive profitable growth and maximize value for shareholders, and better position ourselves to operate successfully in the current and future business environment. As a result, we believe that we are well positioned to exploit both existing and new outsourcing opportunities.

We intend to continue to broaden the scope of the products and services we provide across the drug discovery and early-stage development continuum primarily through internal development, and, as needed, through focused acquisitions and alliances. Acquisitions are an integral part of our growth strategy, both to expand our portfolio and broaden our geographic footprint. We are committed to a disciplined approach that seeks to target businesses that are a sound strategic fit and that offer the prospect of enhancing shareholder value, typically including the achievement of a hurdle rate for return on invested capital above our weighted average cost of capital. For example, in each of 2016 and 2017, we completed strategic acquisitions. In 2016, we completed three acquisitions. In April 2016, we acquired WIL Research, a premier provider of safety assessment and contract development and manufacturing services to biopharmaceutical and agricultural and industrial chemical companies worldwide. In June 2016, we acquired Blue Stream, an analytical CRO supporting the development of complex biologics and biosimilars. In September 2016, we acquired Agilux, a CRO that provides a suite of integrated discovery small and large molecule bioanalytical services, drug metabolism and pharmacokinetic services, and pharmacology services. In August 2017, we acquired Brains On-Line (BOL), a leading CRO that provides critical data that advances novel therapeutics for the treatment of central nervous system (CNS) diseases. In January 2018, we acquired KWS, a leading CRO specializing in in vitro and in vivo discovery testing services for immuno-oncology and inflammatory and infectious diseases.

We are also partnering with a diverse set of leading venture capital firms around the world primarily investing in life sciences, health care, and therapeutics with an emphasis on early-stage companies. Through these partnerships and close relationships, we gain insight into their company and asset portfolios and are thus able to promote our contract research services for discovery, safety assessment, and biologics testing. Thus, we have the opportunity to establish ourselves as a provider of choice for a unique client group which has emerged as biopharmaceutical companies rationalize and prioritize their development pipelines.

Customers

We maintain a three-pronged sales organization with a focus on:

- global biopharmaceutical companies;
- small and mid-sized pharmaceutical, biotechnology, agrochemical, industrial chemical, and veterinary medicine companies, as well as contract research organizations; and
- academic and government institutions.

We also maintain several sales specialists which either have specific technical expertise (often degreed scientists) or cover unique markets.

Our clients continue to consist primarily of all of the major biopharmaceutical companies; many biotechnology, agricultural and industrial chemical, life science, veterinary medicine, medical device, diagnostic, and consumer product companies; contract research and contract manufacturing organizations; and other commercial entities, as well as leading hospitals, academic institutions, and government agencies. We have stable, long-term relationships with many of our clients. During 2017, no single commercial client accounted for more than 3% of our total revenue and no single customer accounted for more than 10% of the revenue of any of our three business segments.

We continue to pursue a goal of expanding our relationships with our large biopharmaceutical clients, and with many of our larger mid-market clients. These relationships take different forms, from preferred provider arrangements to strategic partnerships. The structure of these relationships incentivizes clients to purchase more products and services across our early-stage portfolio. Because of the strength of these relationships, we have better insight into our clients' planning processes, and therefore, better visibility than in the past. For information regarding revenue attributable to each of our business segments for the last three fiscal years, please see Note 15, “Segment and Geographic Information” included in the Notes to Consolidated Financial Statements included elsewhere in this Form 10-K. For information regarding revenue and long-lived assets attributable to operations in the United States, Europe, Canada, Asia Pacific, and other countries for each of the last three fiscal years, please review Note 15, “Segment and Geographic Information” included in the Notes to Consolidated Financial Statements included elsewhere in this Form 10-K.

Sales, Marketing and Customer Support

10

We have designated dedicated sales people for each of our three client segments (global biopharmaceutical, small and mid-sized pharmaceutical and biotechnology companies, and academic and government institutions). This enhances our ability to meet client needs by offering customized, tailored solutions across our entire portfolio. In addition, our mid-market pharmaceutical and biotechnology clients benefit by additional support from a combination of account managers with broad portfolio knowledge and specialists with specific scientific expertise. This allows us to provide comprehensive coverage of all of the market segments among our diverse client population. We also apply the use of dedicated sales specialists for certain technical product lines, such as in our Manufacturing businesses.

We sell our products and services principally through our direct sales force and account management teams who work in North America, Europe, and the Asia-Pacific countries. In addition to interactions with our direct sales force, our primary promotional activities include organizing scientific symposia, publishing scientific papers and newsletters, hosting webinars and making presentations at, and participating in, scientific conferences and trade shows in North America, Europe, and Asia. We supplement these scientifically based marketing activities with internet-based marketing, advertising, and direct mail. In certain areas, our direct sales force is supplemented by international distributors and agents.

Our internal marketing/product management teams support the field sales staff and account management teams while developing and implementing programs to create close working relationships with our clients in the biomedical research industry. We maintain customer service, technical assistance, and consulting service departments (in addition to project managers for our service businesses), which address both our clients' routine and more specialized needs and generally serve as a scientific resource for them. We frequently assist our clients in solving problems related to animal husbandry, health and genetics, biosecurity, non-clinical study design, regulatory consulting, protocol development, and other areas in which our expertise is widely recognized as a valuable resource by our clients.

Our marketing efforts are focused on stimulating demand for further outsourcing across our entire services portfolio. We believe that our ability to provide solutions that address all aspects of early-stage drug research are increasingly attractive to our clients, and we continue to design and market our commercial activities to deliver flexible, customized programs designed by segment to meet our clients' global and site-specific needs.

Competition

Our goal is to be a leader in each of the markets in which we participate. We compete in the marketplace on the basis of our therapeutic and scientific expertise in early-stage drug research, quality, reputation, flexibility, responsiveness, pricing, innovation, and global capabilities. We are able to offer a unique portfolio of early-stage products and services to support drug discovery and development.

We encounter a broad range of competitors of different sizes and capabilities in each of our three businesses segments, although the largest competitors within any segment vary. We also face competition from the internal discovery and development resources of our clients.

- For RMS, we have five main competitors of which one is a government funded, not-for-profit entity; one is part of a large public company; one is privately held in Europe and two are privately held in the U.S. We believe that none of these competitors compares to us in global reach, financial strength, breadth of product and services offerings, technical expertise, or pharmaceutical and biotechnology industry relationships.
- For DSA, both our Discovery Services and Safety Assessment businesses have numerous competitors. Discovery has hundreds of competitors, as it is a highly competitive and fragmented market; Safety Assessment has dozens of competitors of varying size, but it has five main competitors; one is part of a large public company in the U.S.; one is a private company in China; two are privately held in the U.S.; and one is privately held in France. Our DSA segment also competes with in-house departments of pharmaceutical and biotechnology companies, universities, and teaching hospitals.
- For Manufacturing, each of our underlying businesses has several competitors. In addition to many smaller competitors, Biologics has five main competitors, of which two are public companies in Europe, one is a private company in the U.S., one is a public company in China, and one is a public company in the U.S. Avian has one main competitor to its SPF eggs business, which is privately held in Europe, and numerous competitors for specialized avian laboratory services. Microbial Solutions has five main competitors, of which three are public companies in

Europe and two are privately held in the U.S.

Industry Support and Animal Welfare

One of our core values is a concern for, and commitment to, animal welfare. We have been in the forefront of animal welfare improvements in our industry, and continue to show our commitment with special recognition programs for employees who demonstrate an extraordinary commitment in this critical aspect of our business. We created our own Humane Care Initiative, which is directed by our Animal Welfare and Training Group. The goal of the initiative is to assure that we continue as a worldwide leader in the humane care of laboratory animals and implementation of the 3Rs (Replacement, Reduction and Refinement). Laboratory animals are an important resource that further our knowledge of living systems and contribute to the discovery of life-saving drugs and procedures. We work hand-in-hand with the scientific community to understand how living conditions, handling procedures and stress play a role in the quality and efficiency of research. As researchers, we are responsible to our clients and the public for the health and well-being of the animals in our care.

We are firmly committed to the 3Rs and to reducing the number of animals used by emphasizing health and genetic integrity to decrease study data variability. Whenever possible, we use technological advances such as new diagnostic tests for screening pathogens in laboratory rodents, microsampling and in vitro assays. We also partner with customers to develop study designs decreasing the number of animals needed and suggesting pilot studies where appropriate. We also maintain a quarterly award recognizing our employees' efforts to continually implement the 3Rs at our sites globally.

We support a wide variety of organizations and individuals working to further animal welfare as well as the interests of the biomedical research community. We fund scholarships to laboratory animal training programs, provide financial support to non-profit institutions that educate the public about the benefits of animal research and provide awards and prizes to outstanding leaders in the laboratory animal medicine field and the supporters of 3Rs.

Employees

As of December 30, 2017, we had approximately 11,800 employees (including approximately 1,300 science professionals with advanced degrees, including Ph.D.s, D.V.M.s and M.D.s). Our employees are not unionized in the U.S. Employees at some of our European facilities are represented by works councils and/or unions, which is consistent with local customs for our industry. We believe we have good relationships with our employees, based on a number of factors including employee retention and survey results.

Backlog

Our backlog for our RMS, DSA and Manufacturing reportable segments was $96.8 million, $590.0 million and $46.9 million, respectively, as of December 30, 2017, as compared to $88.0 million, $551.8 million and $39.5 million, respectively, as of December 31, 2016. Related services are performed over varying durations, from short to extended periods of time, which may be as long as several years. We maintain an order backlog to track anticipated revenue from studies and projects that either have not started, but are anticipated to begin in the near future, or are in process and have not been completed. We only recognize a study or project in backlog after we have received written evidence of a client's intention to proceed. Canceled studies or projects are removed from backlog.

We believe our aggregate backlog as of any date is not necessarily a meaningful indicator of our future results for a variety of reasons. First, studies vary in duration (i.e., some studies or projects that are included in December 30, 2017 backlog may be completed in 2018, while others may be completed in later years). Second, the scope of studies or projects may change, which may either increase or decrease their value. Third, studies or projects included in backlog may be subject to bonus or penalty payments. Fourth, studies or projects may be terminated or delayed at any time by the client or regulatory authorities for a number of reasons, including the failure of a drug to satisfy safety and efficacy requirements, or a sponsor making a strategic decision that a study or service is no longer necessary. Delayed contracts remain in our backlog until a determination of whether to continue, modify, or cancel the study has been made. We cannot provide any assurance that we will be able to realize all or most of the net revenues included in backlog or estimate the portion to be filled in the current year.

Regulatory Matters

As our business operates in a number of distinct operating environments and in a variety of locations worldwide, we are subject to numerous, and sometimes overlapping, regulatory environments.

The Animal Welfare Act (AWA) governs the care and use of certain species of animals used for research in the U.S. other than laboratory rats, mice and chickens. As a result, most of our U.S. small animal research models activities and our avian vaccine services operations are not subject to regulation under the AWA. For regulated species, the AWA and the associated Animal Care regulations require producers and users of regulated species to provide veterinary care and to utilize specific husbandry practices such as cage size, shipping conditions, sanitation and environmental enrichment to assure the welfare of these animals. Separately, facilities using live vertebrate animals in research funded by the U.S. Public Health Service (PHS) must

also adhere to the PHS Policy on Humane Care and Use of Laboratory Animals and follow the Guide for the Care and Use of Laboratory Animals produced by the Institute for Laboratory Animal Research.

We comply with licensing and registration requirement standards set by the United States Department of Agriculture (USDA) and similar agencies in other countries such as the European Union, China and Japan for the care, handling and use of regulated species. Our animal production facilities in the U.S., our DSA facilities in the U.S. and Canada, and most of our DSA and RMS sites in Europe are either accredited or in the process of obtaining accreditation by the AAALAC International, a private, nonprofit, international organization that promotes the humane treatment of animals in science through voluntary accreditation and assessment programs.

Our import and export of animals and our operations in foreign countries are subject to international agreements and conventions, as well as a variety of national, regional, and local laws and regulations, which establish the standards for the humane treatment, care, handling, and transport of animals by dealers and research facilities.

We conduct non-clinical safety assessment studies to support the submissions for approval or licensing of our clients' products throughout the world. Many of these studies must comply with national statutory or regulatory requirements for GLP. GLP regulations describe a quality system for the organizational process and the conditions under which non-clinical studies are planned, performed, monitored, recorded, reported and archived. GLP compliance is required by such regulatory agencies as the FDA, United States Environmental Protection Agency, European Medicines Agency, Medicines and Healthcare Products Regulatory Agency in the United Kingdom (U.K.), Health Products Regulatory Authority in Ireland, Health Canada and other similar monitoring authorities in the countries where we operate. GLP requirements are significantly harmonized throughout the world and our laboratories are capable of conducting studies in compliance with all necessary requirements.

Regulatory monitoring authorities such as the FDA, Medicines and Healthcare products Regulatory Agency and OECD countries have indicated an increased emphasis on the management of computerized systems to ensure data integrity. New guidance related to the need for data integrity compliance programs have recently been released and may require additional efforts by CRL for validation, audit trail review and archiving activities to be considered. To assure that we have proper regulatory oversight over electronic records, a dedicated quality function reviews computerized system practices to ensure that appropriate record controls are in place and that a robust audit strategy confirms requirements for compliance.

Our Manufacturing businesses produce endotoxin test kits, reagents, cell banks used in research and biopharmaceutical production, clinical trial vaccines, vaccine support products and provided GMP contract manufacturing of clinical and marketed products. Additionally, several of our laboratories conduct biosafety and analytical testing such as identity, stability, sterility and potency testing in support of our clients' manufacturing programs working with our clients to fulfill their validation requirements as applicable. These activities are subject to regulation and consequently require these businesses to be inspected by the FDA and other national regulatory agencies under their respective current Good Manufacturing Practice (cGMP) regulations. These regulations require that we manufacture our products or perform testing in a prescribed manner with respect to cGMP compliance, and maintain records of our manufacturing, testing and control activities. In addition, the specific activities of some of our businesses require us to hold specialized licenses for the manufacture, distribution and/or marketing of particular products.

All of our sites are subject to licensing and regulation under international treaties and conventions, including national, regional and local laws relating to:

- the surface and air transportation of chemicals, biological reagents and laboratory specimens;
- the handling, use, storage, and disposal of chemicals (including narcotics and psychotropic drugs), biological reagents, laboratory specimens, hazardous waste, and radioactive materials;
- the procurement, handling, use, storage, and disposal of human cells, tissues, and cellular and tissue based products for research purposes;
- the safety and health of employees and visitors to our facilities; and
- protection of the environment and general public.

Global compliance programs are centralized under a single group responsible for global regulatory affairs compliance, including quality programs and systems to ensure that all business sectors comply with applicable statutory and regulatory requirements and satisfy our clients' expectations for quality and regulatory compliance. To assure these compliance

obligations, we established quality assurance units (QAUs) in each of our regulated businesses that require independent oversight. The QAUs operate independently from those individuals that direct and conduct studies, manufacturing or analytical testing that studies that supports manufacturing.

Intellectual Property

We develop and implement computer software and technically derived procedures and products intended to maximize the quality and effectiveness of our services. Although our intellectual property rights are valuable to our success, we believe that such factors as the technical expertise, proprietary know-how, ability, and experience of our professionals are more important, and that, overall, these technological capabilities provide significant benefits to our clients. Where we consider it appropriate, steps are taken to protect our know-how through confidentiality agreements and registrations. In addition, we in-license technology and products from other companies when it enhances our product and services businesses. In the future, in-licensing may become a larger initiative to enhance our offerings, particularly as we focus on therapeutic area expertise. With the exception of technology related to our Microbial Solutions testing business, we have no patents, trademarks, licenses, franchises, or concessions which are material and upon which any of our products or services are dependent.

Corporate Governance

We are committed to operating our business with integrity and accountability. We strive to meet or exceed all of the corporate governance standards established by the New York Stock Exchange, the SEC, and the Federal government as implemented by the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Ten of the eleven members of our Board of Directors are independent and have no significant financial, business, or personal ties to us or management and all of our board committees (with the exception of our Executive Committee and our Strategic Planning and Capital Allocation Committee) are composed entirely of independent directors. The Board adheres to our Corporate Governance Guidelines and a Code of Business Conduct and Ethics which has been communicated to employees and posted on our website. We are diligent in complying with established accounting principles and are committed to providing financial information that is transparent, timely, and accurate. We have a Related Person Transactions Policy designed to promote the timely identification of such transactions and to ensure we give appropriate consideration to any real or perceived conflicts in our commercial arrangements. We have a global process through which employees, either directly or anonymously, can notify management (and the Audit Committee of the Board of Directors) of alleged accounting and auditing concerns or violations including fraud. Our internal Disclosure Committee meets regularly and operates pursuant to formal disclosure procedures and guidelines which help to ensure that our public disclosures are accurate and timely. Copies of our Corporate Governance Guidelines, Code of Business Conduct and Ethics, and Related Person Transactions Policy are available on our website at http://ir.criver.com.

Executive Officers of the Registrant (pursuant to Instruction 3 to Item 401(b) of Regulation S-K)

Below are the names, ages and principal occupations of each of our current executive officers. All such persons have been elected to serve until their successors are elected and qualified or until their earlier resignation or removal.

James C. Foster, age 67, joined us in 1976 as General Counsel. During his tenure, Mr. Foster has held various staff and managerial positions, and was named Chief Executive Officer in 1992 and our Chairman in 2000.

William D. Barbo, age 57, joined us in 1982 as a laboratory technician. Between 1982 and 2005, Mr. Barbo served in a variety of positions of increasing responsibilities. He was named Corporate Vice President of Research Models and Services in 2005, Corporate Senior Vice President of Global Sales and Marketing in 2010, and Corporate Executive Vice President and Chief Commercial Officer in October 2016.

David P. Johst, age 56, joined us in 1991 as Corporate Counsel and was named Vice President, Human Resources in 1995. He became Vice President, Human Resources and Administration in 1996, a Senior Vice President in 1999, and a Corporate Executive Vice President in 2005. He currently serves as our General Counsel and Chief Administrative Officer and is responsible for overseeing our corporate legal function, Human Resources department, and several other corporate staff departments. Prior to joining us, Mr. Johst was in private practice at the law firm of Hale and Dorr (now WilmerHale). Mr. Johst currently serves as a trustee of Mt. Ida College.

Davide Molho, age 48, joined our Italian operations in 1999 and was promoted to Director of Operations for RMS Italy in 2002. In 2005, his role was expanded to include French RMS operations and in 2007, he became Corporate Vice President, European Research Models and Services with responsibility for all European RMS operations. In July 2009, Dr. Molho was promoted to Corporate Senior Vice President, North American and European Research Models and Services. He was subsequently promoted to Corporate Executive Vice President and President, Global Research Models and Services in

December 2010. In 2011, Dr. Molho was named Corporate Executive Vice President, North America Operations; in December 2013, he was named Corporate Executive Vice President and President, Global RMS and Safety Assessment and Biologics Operations; and in February 2018, he was appointed President and Chief Operating Officer.

David R. Smith, age 52, has served as our Corporate Executive Vice President and Chief Financial Officer since August 2015. He joined us as Corporate Vice President, Discovery Services through our acquisition of Argenta and BioFocus from Galapagos NV in March 2014 and was promoted to Corporate Senior Vice President, Global Discovery Services, in October 2014. At Galapagos, he served in various capacities, including as Chief Executive Officer of its Galapagos Services division and as Chief Financial Officer. Mr. Smith served as Chief Financial Officer for Cambridge University Hospitals from 2007 to 2013. Mr. Smith spent eight years at PricewaterhouseCoopers prior to joining AstraZeneca in 1997, where he spent the next nine years in various finance and business roles of increasingly greater responsibility.

Birgit Girshick, age 48, joined us in 1989 and has held positions of increasing responsibility in our RMS Germany and RMS Avian Vaccine businesses. In 2004, Ms. Girshick was promoted to General Manager of the RMS Avian Vaccine Services business. She was named Executive Director, RMS Process Improvement in 2009, and Corporate Vice President, Global Biopharmaceutical Services in 2010. In 2013, Ms. Girshick was promoted to Corporate Senior Vice President, Research Models and Biologics Testing Solutions. In 2016, Ms. Girshick was tasked with leading the integration of WIL Research into our Safety Assessment business. Also in 2016, Ms. Girshick assumed the role of Corporate Senior Vice President, Global Discovery Services. In February 2018, Ms. Girshick was appointed Corporate Executive Vice President, Discovery and Safety Assessment.

Item 1A. Risk Factors

Set forth below, elsewhere in this Form 10-K and in other documents we file with the SEC are risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements contained in this Form 10-K. We note that factors set forth below, individually or in the aggregate, may cause our actual results to differ materially from expected and historical results. We note these factors for investors as permitted by the Private Securities Litigation Reform Act of 1995. You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider the following to be a complete discussion of all potential risks or uncertainties.

The outsourcing trend in non-clinical (discovery and safety assessment) stages of drug discovery and development may decrease, which could impair our growth.

Over the past decade, pharmaceutical and biotechnology companies have generally increased their outsourcing of non-clinical research support activities, such as discovery and safety assessment. While many industry analysts expect the outsourcing trend to continue to increase for the next several years (although with different growth rates for different phases of drug discovery and development), decreases in such outsourcing may result in a diminished growth rate in the sales of any one or more of our service lines and may adversely affect our financial condition and results of operations. For additional discussion of the factors that we believe have recently been influencing outsourcing demand from our clients, please see the section entitled “Our Strategy” included elsewhere in this Form 10-K.

A reduction in research and development budgets at pharmaceutical and biotechnology companies may adversely affect our business.

Our clients include researchers at pharmaceutical and biotechnology companies. Our ability to continue to grow and win new business is dependent in large part upon the ability and willingness of the pharmaceutical and biotechnology industries to continue to spend on molecules in the non-clinical phases of research and development (and in particular discovery and safety assessment) and to outsource the products and services we provide. Fluctuations in the expenditure amounts in each phase of the research and development budgets of these researchers and their organizations could have a significant effect on the demand for our products and services. Research and development budgets fluctuate due to changes in available resources, mergers of pharmaceutical and biotechnology companies, spending priorities (including available resources of our biotechnology clients, particularly those that are cash-negative, who may be highly focused on rationing their liquid assets in a challenging funding environment), general economic conditions, and institutional budgetary policies. Available funding for biotechnology clients in

particular may be affected by the capital markets, investment objectives of venture capital investors, and priorities of biopharmaceutical industry sponsors.

Our business could be adversely affected by any significant decrease in drug research and development expenditures by pharmaceutical and biotechnology companies, as well as by academic institutions, government laboratories, or private foundations. Similarly, economic factors and industry trends that affect our clients in these industries also affect their research

and development budgets and, consequentially, our business as well. Furthermore, our clients (particularly larger biopharmaceutical companies) continue to search for ways to maximize the return on their investments with a focus on leaner research and development costs per drug candidate. For additional discussion of the factors that we believe have recently been influencing research and development budgets at our clients, please see the sections entitled “Our Strategy” and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Form 10-K.

A reduction or delay in government funding of research and development may adversely affect our business.

A portion of revenue, predominantly in our RMS segment, is derived from clients at academic institutions and research laboratories whose funding is partially dependent on both the level and timing of funding from government sources such as the U.S. National Institutes of Health (NIH) and similar domestic and international agencies, which can be difficult to forecast. Government funding of research and development is subject to the political process, which is inherently fluid and unpredictable. Our revenue may be adversely affected if our clients delay purchases as a result of uncertainties surrounding the approval of government budget proposals. Also, government proposals to reduce or eliminate budgetary deficits have sometimes included reduced allocations to the NIH and other government agencies that fund research and development activities. Other programs, such as homeland security or defense, or general efforts to reduce the federal budget deficit could be viewed by the U.S. government as a higher priority. These budgetary pressures may result in reduced allocations in the future to government agencies that fund research and development activities. A reduction in government funding for the NIH or other government research agencies could adversely affect our business and our financial results. Also, there is no guarantee that NIH funding will be directed towards projects and studies that require use of our products and services.

Any failure by us to comply with applicable regulations and related guidance could harm our reputation and operating results, and compliance with new regulations and guidance may result in additional costs.

Any failure on our part to comply with applicable regulations could result in the termination of ongoing research or the disqualification of data for submission to regulatory authorities. This could harm our reputation, our prospects for future work and our operating results. For example, the issuance of a notice of objectionable observations or a warning from the FDA based on a finding of a material violation by us for GLP or cGMP requirements could materially and adversely affect us. If our operations are found to violate any applicable law or other governmental regulations, we might be subject to civil and criminal penalties, damages and fines. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses, divert our management's attention from the operation of our business and damage our reputation.

Regulatory monitoring authorities such as the FDA, Medicines and Healthcare Products Regulatory Agency and OECD have increased their emphasis on the management of computerized systems to ensure data integrity. New guidance related to the need for data integrity compliance programs have recently been released and we may require additional efforts for validation, audit trail review and archiving activities. To assure that we have proper regulatory oversight over our electronic records, a dedicated quality function reviews our computerized system practices to ensure that appropriate record controls are in place and that a robust audit strategy confirms requirements for compliance. In addition, the FDA’s recently applicable SEND (Standardization for Exchange of Nonclinical Data) standards which apply to our customers’ NDA (and as of December 18, 2017, IND) submissions require us to provide electronic data in specific formats that will allow for more efficient, higher quality regulatory reviews. Accordingly, our customers expect us to timely deliver their nonclinical data compliant with SEND. Notwithstanding, some of these standards require additional operating and capital expenses that will impact not only us and our industry competitors, but clients in the biomedical research community. Non-compliance with any of these expectations could lead to official action by a government authority, damage to our reputation and a potential loss of business.

In addition, regulations and guidance worldwide concerning the production and use of laboratory animals for research purposes continue to evolve. Similarly, guidance has been and continues to be developed for other areas that impact the biomedical research community on both a national and international basis including transportation, mandated contingency planning, euthanasia guidance, import and export requirements of biological materials, health monitoring requirements and the use of disinfectants.

Contaminations in our animal populations can damage our inventory, harm our reputation for contaminant-free production, result in decreased sales and cause us to incur additional costs.

Our research models and fertile chicken eggs must be free of certain infectious agents such as certain viruses and bacteria because the presence of these contaminants can distort or compromise the quality of research results and could adversely impact human or animal health. The presence of these infectious agents in our animal production facilities and certain service

operations could disrupt our contaminant-free research model and fertile egg production as well as our animal services businesses including GEMS, harm our reputation for contaminant-free production, and result in decreased sales. If they occur, contaminations typically require cleaning up, renovating, disinfecting, retesting, and restarting production or services. Such clean-ups result in inventory loss, clean-up and start-up costs, and reduced sales as a result of lost client orders and potentially credits for prior shipments. In addition to microbiological contaminations, the potential for genetic mix-ups or mis-matings also exists and may require the restarting of the applicable colonies. While this does not require the complete clean-up, renovation, and disinfection of the room, it would likely result in inventory loss, additional start-up costs and possibly reduced sales. Contaminations also expose us to risks that clients will request compensation for damages in excess of our contractual indemnification requirements. There also exists a risk that contaminations from models that we produce may affect our client's facilities, with similar impact to them for which we could be liable for damages. In some cases, we may produce or import animals carrying infectious agents capable of causing disease in humans; and in the case of such a contamination or undiagnosed infection, there could be a possible risk of human exposure and infection.

We are also subject to similar contamination risks with respect to our large research models. While often we own these models, they may be maintained on our behalf at a site operated by the original provider. Accordingly, risk of contamination may be outside of our control, and we depend on the practices and protocols of third parties to ensure a contamination-free environment. A contamination may require extended CDC quarantine with subsequent reduced sales as a result of lost client orders as well as the potential for complete inventory loss and disinfection of the affected quarantine rooms. Furthermore, while we often negotiate for contractual risk indemnification, we may be exposed in the event of such contaminations if the third party does not fulfill its indemnification obligation or is unable to as a result of insolvency or other impediments.

All such contaminations described above are unanticipated and difficult to predict and could adversely impact our financial results. Many of our operations are comprised of complex mechanical systems which are subject to periodic failure, including aging fatigue. Such failures are unpredictable, and while we have made significant capital expenditures designed to create redundancy within these mechanical systems, strengthen our biosecurity, improve our operating procedures to protect against such contaminations, and replace impaired systems and equipment in advance of such events, failures and/or contaminations may still occur.

We could experience a breach of the confidentiality of the information we hold or of the security of our computer systems.

We operate large and complex computer systems that contain significant amounts of client data. As a routine element of our business, we collect, analyze, and retain substantial amounts of data pertaining to the non-clinical studies we conduct for our clients. Unauthorized third parties could attempt to gain entry to such computer systems for the purpose of stealing data or disrupting the systems. We believe that we have taken appropriate measures to protect them from intrusion, and we continue to improve and enhance our systems in this regard, but in the event that our efforts are unsuccessful, we could suffer significant harm. Our contracts with our clients typically contain provisions that require us to keep confidential the information generated from these studies. In the event the confidentiality of such information was compromised, we could suffer significant harm.

Changes in government regulation or in practices relating to the pharmaceutical or biotechnology industries, including potential healthcare reform, could decrease the need for the services we provide.

Governmental agencies throughout the world, but particularly in the U.S., strictly regulate the drug development process. Our business involves helping pharmaceutical and biotechnology companies, among others, navigate the regulatory drug approval process. Accordingly, many regulations, and often new regulations, are expected to result in higher regulatory standards and often additional revenues for companies that service these industries. However, some changes in regulations, such as a relaxation in regulatory requirements or the introduction of streamlined or expedited drug approval procedures, or an increase in regulatory requirements that we have difficulty satisfying or that make our services less competitive, could eliminate or substantially reduce the demand for our services.

Although we believe we are currently in compliance in all material respects with national, regional, and local laws, as well as other accepted guidance used by oversight bodies (which include the USDA, the standards set by the

International Air Transport Association, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, U.S. Fish and Wildlife Service, The Centers for Disease Control, the Department of Transportation, the Department of State, the office of Laboratory Animal Welfare of NIH, the Drug Enforcement Agency, as well as numerous other oversight agencies in Canada, Europe, and Asia), failure to comply could subject us to denial of the right to conduct business, fines, criminal penalties, and other enforcement actions. In addition, if regulatory authorities were to mandate a significant reduction in safety assessment procedures which utilize laboratory animals (as has been advocated by certain groups), certain segments of our business could be materially adversely affected.

In March 2010, the U.S. Congress enacted healthcare reform legislation, the Patient Protection and Affordable Care Act, or the ACA, intended over time to expand health insurance coverage and impose health industry cost containment measures. In June 2012, the U.S. Supreme Court upheld the constitutionality of this legislation. The Court's decision allows implementation of key provisions impacting drug manufacturers going forward, including, but not limited to, (1) expansion of access to health insurance coverage, (2) expansion of the Medicaid program, (3) enactment of an industry fee on pharmaceutical companies, and (4) imposition of an excise tax on the sale of medical devices. Since the law and its implementation continue to face challenges in Congress and federal courts, and from certain state governments, opposition advocacy groups, and some small business organizations, as well as from the incoming president and his administration, we are uncertain as to the ultimate effects of this legislation on our business and are unable to predict what legislative proposals will be adopted in the future.

Implementation of healthcare reform legislation may have certain benefits, but also may contain costs that could limit the profits that can be made from the development of new drugs. This could adversely affect research and development expenditures by pharmaceutical and biotechnology companies, which could in turn decrease the business opportunities available to us both in the U.S. and abroad. In addition, new laws or regulations may create a risk of liability, increase our costs, or limit our service offerings. Furthermore, if health insurers were to change their practices with respect to reimbursements for pharmaceutical products, our clients may spend less, or reduce their growth in spending on research and development.

The current Executive Branch of the U.S. government has disclosed a key initiative as being to repeal or substantially unwind the ACA. While it is not possible to predict whether and when any such changes will occur, changes at the local, state or federal level may significantly impact our domestic and foreign businesses and/or those of our clients. Specific legislative and regulatory proposals discussed during and after the election that may have a material impact on us or our clients include, but are not limited to, appeal or reform of the ACA; and modifications to international trade policy, public company reporting requirements, environmental regulation and antitrust enforcement.

Our revenue generating agreements contain termination and service reduction provisions or may otherwise terminate according to their term, which may result in less contract revenue than we anticipate.

Many of our agreements with both large and small clients, including those which underlie our strategic relationships with some of our more significant customers, provide for termination or reduction in scope with little or no notice. In addition, we sell our products and services to our competitors, and similarly they sell products and services to us. For instance, we have historically entered into, and currently are party to, contracts with certain of our competitors to distribute specialty research models in locations where our competitors may not have distribution capabilities. Clients and/or competitors may elect to terminate their agreements with us for various reasons including:

- the products being tested fail to satisfy safety requirements;
- unexpected or undesired study results;
- production problems resulting in shortages of the drug being tested;
- a client's decision to forego or terminate a particular study;
- establishment of alternative distribution channels by our competitors;
- the loss of funding for the particular research study; or
- general convenience/counterparty preference.

If a client or competitor terminates a contract with us, we are typically entitled under the terms of the contract to receive revenue earned to date as well as certain other costs and, in some cases, termination fees. Cancellation of a large contract or proximate delay, cancellation or conclusion of multiple contracts could materially adversely affect our business and, therefore, may adversely affect our operating results.

Many of our contracts are fixed price and may be delayed or terminated or reduced in scope for reasons beyond our control, or we may under price or overrun cost estimates with these contracts, potentially resulting in financial losses. Many of our contracts provide for services on a fixed price or fee-for-service with a cap basis and, accordingly, we bear the financial risk if we initially under-price our contracts or otherwise overrun our cost estimates. In addition, these contracts may be terminated or reduced in scope either immediately or upon notice. Cancellations may occur for a variety of reasons, and often at the discretion of the client. The loss, reduction in scope or delay of a large contract or

the loss or delay of multiple contracts could materially adversely affect our business, although our contracts frequently entitle us to receive the costs of

winding down the terminated projects, as well as all fees earned by us up to the time of termination. Some contracts also entitle us to a predetermined termination fee and irrevocably committed costs/expenses.

Several of our product and service offerings are dependent on a limited source of supply, which if interrupted could adversely affect our business.

We depend on a limited international source of supply for certain products, such as large research models. Disruptions to their continued supply may arise from health problems, export or import laws/restrictions or embargoes, international trade regulations, foreign government or economic instability, severe weather conditions, increased competition among suppliers for models, disruptions to the air travel system, activist campaigns, commercial disputes, supplier insolvency, or other normal-course or unanticipated events. Any disruption of supply could harm our business if we cannot remove the disruption or are unable to secure an alternative or secondary supply source on comparable commercial terms.

If we are not successful in selecting and integrating the businesses and technologies we acquire, or in managing our current and future divestitures, our business may suffer.

During the past fifteen years, we have steadily expanded our business through numerous acquisitions. We plan to continue to acquire businesses and technologies and form strategic alliances. However, businesses and technologies may not be available on terms and conditions we find acceptable. We risk spending time and money investigating and negotiating with potential acquisition or alliance partners, but not completing transactions.

On February 12, 2018, we entered into a definitive agreement to acquire MPI Research, a non-clinical CRO, providing comprehensive testing services to biopharmaceutical and medical device companies worldwide. If consummated, this transaction will be the largest acquisition in nearly fifteen years. Refer to Item 8, “Financial Statements and Other Supplementary Data” in this Annual Report on Form 10-K for more details.

Acquisitions and alliances involve numerous risks which may include:

- difficulties in achieving business and financial success;
- difficulties and expenses incurred in assimilating and integrating operations, services, products, technologies, or pre-existing relationships with our customers, distributors, and suppliers;
- challenges with developing and operating new businesses, including those which are materially different from our existing businesses and which may require the development or acquisition of new internal capabilities and expertise;
- potential losses resulting from undiscovered liabilities of acquired companies that are not covered by the indemnification we may obtain from the seller or the insurance we acquire in connection with the transaction;
- loss of key employees;
- the presence or absence of adequate internal controls and/or significant fraud in the financial systems of acquired companies;
- diversion of management's attention from other business concerns;
- becoming subject to a more expansive regulatory environment;
- acquisitions could be dilutive to earnings, or in the event of acquisitions made through the issuance of our common stock to the shareholders of the acquired company, dilutive to the percentage of ownership of our existing shareholders;
- risks of not being able to overcome differences in foreign business practices, customs, and importation regulations, language, and other cultural barriers in connection with the acquisition of foreign companies;
- new technologies and products may be developed which cause businesses or assets we acquire to become less valuable; and
- risks that disagreements or disputes with prior owners of an acquired business, technology, service, or product may result in litigation expenses and diversion of our management's attention.

In the event that an acquired business, technology, or an alliance does not meet our expectations, our results of operations may be adversely affected.

Some of the same risks exist when we decide to sell a business, site, or product line. In addition, divestitures could involve additional risks, including the following:

- difficulties in the separation of operations, services, products, and personnel;
- diversion of management's attention from other business concerns; and
- the need to agree to retain or assume certain current or future liabilities in order to complete the divestiture.

We continually evaluate the performance and strategic fit of our businesses. These and any divestitures may result in significant write-offs, including those related to goodwill and other intangible assets, which could have an adverse effect on our results of operations and financial condition. In addition, we may encounter difficulty in finding buyers, or, alternative exit strategies at acceptable prices and terms, and in a timely manner. We may not be successful in managing these or any other significant risks that we encounter in divesting a business, site, or product line, and as a result, we may not achieve some or all of the expected benefits of the divestiture.

Impairment of goodwill or other intangible assets may adversely impact future results of operations.

We have intangible assets, including goodwill, on our balance sheet due to our acquisitions of businesses. The initial identification and valuation of these intangible assets and the determination of the estimated useful lives at the time of acquisition involve use of management judgments and estimates. These estimates are based on, among other factors, projections of cash flows that arise from identifiable intangible assets of acquired businesses and discount rates based on an analysis of our weighted average cost of capital, adjusted for specific risks associated with the assets. Disruptions in global financial markets and deterioration of economic conditions could, among other things, impact the discount rate and other assumptions used in the valuations and actual cash flows arising from a particular intangible asset could vary from projected cash flows, which could imply different carrying values from those established at the dates of acquisition and which could result in impairment of such assets.

If the future growth and operating results of our business are not as strong as anticipated, overall macroeconomic or industry conditions deteriorate and/or our market capitalization declines, this could impact the assumptions used in establishing the carrying value of goodwill or other intangible assets. To the extent goodwill or other intangible assets are impaired, their carrying value will be written down to their implied fair values and a charge will be made to our income from continuing operations. Such an impairment charge could materially and adversely affect our operating results. As of December 30, 2017, the carrying amount of goodwill and other intangibles on our consolidated balance sheet was $1,174.7 million.

Our business is subject to risks relating to operating internationally.

A significant part of our revenue is derived from operations outside the U.S. Our international revenue represented approximately one-half of our total revenue in recent years. We expect that international revenue will continue to account for a significant percentage of our total revenue for the foreseeable future. There are a number of risks associated with our international business including:

- foreign currencies we receive for sales and in which we record expenses outside the U.S. could be subject to unfavorable exchange rates with the U.S. dollar and reduce the amount of revenue and cash flow (and increase the amount of expenses) that we recognize and cause fluctuations in reported financial results;
- certain contracts, particularly in Canada, are frequently denominated in currencies other than the currency in which we incur expenses related to those contracts, and where expenses are incurred in currencies other than those in which contracts are priced, fluctuations in the relative value of those currencies could have a material adverse effect on our results of operations;
- general economic and political conditions in the markets in which we operate;
- potential international conflicts, including terrorist acts;
- exchange controls, adverse tax consequences, and legal restrictions on the repatriation of funds into the U.S.;
- difficulties and costs associated with staffing and managing foreign operations, including risks of work stoppages and/or strikes, as well as violations of local laws or anti-bribery laws such as the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions;
- unexpected changes in regulatory requirements;

20

- the difficulties of compliance with a wide variety of foreign laws and regulations;
- unfavorable labor regulations in foreign jurisdictions;
- potentially negative consequences from changes in or interpretations of U.S. and foreign tax laws;
- exposure to business disruption or property damage due to geographically unique natural disasters (including within the U.S.);
- longer accounts receivable cycles in certain foreign countries; and
- compliance with import requirements and other trade regulations.

Changes in E.U. privacy and data protection regulations could have a material adverse impact on our operations. The General Data Protection Regulation (GDPR) becomes effective in May 2018 and will replace the 1995 Data Protection Directive. The GDPR will impose heightened obligations on businesses that control and manage the personal data of E.U. citizens. The penalties for non-compliance are significant, including up to four percent of global revenue.

These risks, individually or in the aggregate, could have an adverse effect on our results of operations and financial condition. For example, as mentioned above, we are subject to compliance with the U.S. Foreign Corrupt Practices Act and similar anti-bribery laws, which generally prohibit companies and their intermediaries from making improper payments to foreign government officials for the purpose of obtaining or retaining business. While our employees, distributors and agents are required to comply with these laws, we cannot be sure that our internal policies and procedures will always protect us from violations of these laws despite our commitment to legal compliance and corporate ethics. The occurrence or allegation of these types of risks may adversely affect our business, performance, prospects, value, financial condition, and results of operations.

Our facilities could be damaged or disrupted by natural disasters or other catastrophic events which could adversely affect our reputation, financial position, results of operations and cash flows.

While we have taken precautions to mitigate production and service interruptions at our global facilities, a major catastrophe, such as a hurricane, tornado, earthquake, flood, wildfire or other natural disaster (or other unanticipated displacement) at or near any of our facilities could result in physical damage to our properties, including closure, resulting in a prolonged interruption of our business. A disruption resulting from any one of these events could cause significant delays in shipments of our products, reduce our capacity to provide services, eradicate unique manufacturing capabilities and, ultimately, result in the loss of revenue and customers. Any of these factors could have a material adverse effect on our reputation, financial position, results of operations, and cash flows.

New technologies may be developed, validated, and increasingly used in biomedical research that could reduce demand for some of our products and services.

The scientific and research communities continue to explore methods to develop improved cellular and animal model systems that would increase the translation to human studies and vice-versa and possibly replace or supplement the use of traditional living animals as test platforms in biomedical research. Some companies have developed techniques in these areas that may have scientific merit to improve translation between species. In addition, technological improvements to existing or new processes, such as imaging and other translational biomarker technologies, could result in the refinement and utility for the number of animal research models necessary to improve the translation from non-clinical to clinical studies. There is an increasing push to focus on in vitro technologies such that employ human biospecimens, stem cell technologies, and genome editing.

It is our strategy to explore these in vitro technologies to refine and potentially reduce the utilization of animal models as these new methods become validated. For example, Charles River Laboratories Cleveland, Ind. (f/k/a ChanTest Corporation) has a well-developed program to evaluate the utility of induced pluripotent stem cell-derived cardiomyocytes, advanced in vitro models and “organ-on-a-chip” technologies. Successful commercialization of alternatives to traditional research models may not be sufficient to fully offset reduced sales or profits from research models. In addition, alternative research methods could decrease the need for future research models, and we may not be able to develop new products effectively or in a timely manner to replace any lost sales. Lastly, other companies or entities may develop research models with characteristics different than the ones that we produce, and which may be viewed as more desirable by some of our clients.

Negative attention from special interest groups may impair our business.

The products and services which we provide our clients are essential to the drug discovery, development and manufacturing processes, and a significant amount are mandated by law. Notwithstanding, certain special interest groups categorically object

to the use of animals for valid research purposes. Historically, our core research model activities with rats, mice and other rodents have not been the subject of significant animal rights media attention. However, research activities with animals have been the subject of adverse attention, including shareholder proposals and attempts to disrupt air carriers from transporting research models, impacting the industry. This has included periodic demonstrations near facilities operated by us and at our annual meetings, as well as shareholder proposals we received for some of our past Annual Meetings of Shareholders. Any negative attention, threats or acts of vandalism directed against either our animal research activities or our third party service providers such as our airline carriers in the future could impair our ability to operate our business efficiently.

Our debt level could adversely affect our business and growth prospects.

As of December 30, 2017, we had $1.1 billion of debt and in connection with our plan to acquire MPI Research (See Note 17 “Subsequent Event”, included in the Notes to Consolidated Financial Statements elsewhere in this Form 10-K), we announced our intention to increase our debt level by approximately $830 million by obtaining a commitment letter for a bridge loan facility. We are evaluating fixed-rate debt financing alternatives which could be used to finance the acquisition and for general corporate purposes. Our debt could have significant adverse effects on our business, including making it more difficult for us to obtain additional financing on favorable terms; requiring us to dedicate a substantial portion of our cash flows from operations to the repayment of debt and the interest on this debt; limiting our ability to capitalize on significant business opportunities; and making us more vulnerable to rising interest rates. For additional information regarding our debt, please see Note 7, “Long-Term Debt and Capital Lease Obligations”, included in the Notes to Consolidated Financial Statements included elsewhere in this Form 10-K.

The drug discovery, development services and manufacturing support industries are highly competitive.

The drug discovery, non-clinical development, and manufacturing support services industries are highly competitive. We often compete for business not only with other CROs, but also with internal discovery and development departments within our larger clients, who may have greater resources than ours. We also compete with universities and teaching hospitals for outsourced services. We compete on a variety of factors, including:

- reputation for on-time quality performance;
- reputation for regulatory compliance;
- expertise and experience in multiple specialized areas;
- scope and breadth of service and product offerings across the drug discovery and development spectrum;
- scope and breadth of service and product offerings across the manufacturing support spectrum;
- ability to provide flexible and customized solutions to support our clients' drug discovery, non-clinical development, and manufacturing support needs;
- broad geographic availability (with consistent quality);
- price/value;
- technological expertise and efficient drug development processes;
- quality of facilities;
- financial stability;
- size;
- ability to acquire, process, analyze, and report data in an accurate manner; and
- accessibility of client data through secure portals.

If we do not compete successfully, our business will suffer. Increased competition might lead to price and other concessions that could adversely affect our operating results. The drug discovery and development services industry has continued to see a trend towards consolidation, particularly among the biotechnology companies, who are targets for each other and for larger pharmaceutical companies. If this trend continues, it is likely to produce more competition among the larger companies and CROs generally, with respect to both clients and acquisition candidates. In addition, small, specialized entities considering entering the CRO industries will continue to find lower barriers to entry, and private equity firms may determine that there are opportunities to acquire and consolidate these companies, thus further increasing possible competition. More generally, our

22

competitors or others might develop technologies, services or products that are more effective or commercially attractive than our current or future technologies, services, or products, or that render our technologies, services, or products less competitive or obsolete. If competitors introduce superior technologies, services, or products and we cannot make enhancements to ours to remain competitive, our competitive position, and in turn our business, revenue, and financial condition, would be materially and adversely affected. In the aggregate, these competitive pressures may affect the attractiveness of our technologies, services, or products and could adversely affect our financial results.

Potential Changes in U.S. and International Tax Law.

On December 22, 2017, President Trump signed into law significant U.S. tax law changes (U.S. Tax Reform) which reduces the U.S. federal statutory tax rate, broadens the corporate tax base through the elimination or reduction of deductions, exclusions, and credits, limits the ability of U.S. corporations to deduct interest expense, and transitions to a territorial tax system which will allow for the repatriation of foreign earnings to the U.S. with a 100% federal dividends received deduction prospectively. In addition, U.S. Tax Reform requires a one-time transitional tax on foreign cash equivalents and previously unremitted earnings. Several of the new provisions enacted as part of U.S. Tax Reform require clarification and guidance from the Internal Revenue Service (IRS) and Treasury Department. These or other changes in U.S. tax laws could impact our profits, effective tax rate, and cash flows.

We have substantial operations in Canada, Ireland and the United Kingdom which currently benefit from favorable corporate tax arrangements. We receive substantial tax credits in Canada, from both the Canadian federal and Quebec governments, and the U.K. Any reduction in the availability or amount of these tax credits or increase to tax rates due to tax law changes or outcomes of tax controversies could have a material adverse effect on our profits, cash flows, and effective tax rate.

Currently, the OECD has developed an action plan to address concerns regarding base erosion and profit shifting (BEPS). This initiative has resulted in proposed and enacted changes to tax laws in various countries including France, Germany, Luxembourg, and the U.K. Future changes to tax laws or interpretation of tax laws resulting from the BEPS project could increase our effective tax rate, which would affect our profitability.

Contract research services create a risk of liability.

As a CRO, we face a range of potential liabilities which may include:

- errors or omissions in reporting of study detail in non-clinical studies that may lead to inaccurate reports, which may undermine the usefulness of a study or data from the study, or which may potentially advance studies absent the necessary support or inhibit studies from proceeding to the next level of testing;
- risks associated with our possible failure to properly care for our clients' property, such as research models and samples, study compounds, records, work in progress, other archived materials, or goods and materials in transit, while in our possession;
- risks that models in our breeding facilities or in facilities that we manage may be infected with diseases that may be harmful and even lethal to them or humans, despite preventive measures contained in our policies for the quarantine and handling of imported animals; and
- risks that we may have errors and omissions and/or product liabilities related to our products designed to conduct lot release testing of medical devices, injectable drugs, food, beverages, and home and beauty products (primarily through our Microbial Solutions business), or in the testing of biologics and other services performed by our Biologics business, which could result in us or our clients failing to identify unsafe or contaminated materials.

While we attempt to mitigate these risks through a variety of methods, it is impossible to completely eradicate such risks. In our RMS business, we mitigate these risks to the best of our abilities through our regimen of animal testing, quarantine procedures, and veterinary staff vigilance, through which we seek to control the exposure of animal related disease or infections. In our DSA and Manufacturing businesses, we attempt to reduce these risks by contractual risk transfer provisions entitling us to be indemnified by our clients and subject to a limitation of liability, by insurance maintained by our clients and/or by us, and by various regulatory requirements we must follow in connection with our business.

Contractual risk transfer indemnifications generally do not protect us against liability arising from certain of our own actions, such as negligence or misconduct. We could be materially and adversely affected if we are required to pay

damages or bear the costs of defending any claim that is outside any contractual indemnification provision, or if a party does not fulfill its indemnification obligations, or the damage is beyond the scope or level of insurance coverage. We also often contractually indemnify our clients (subject to a limitation of liability), similar to the way they indemnify us, and we may be materially

adversely affected if we have to fulfill our indemnity obligations. Furthermore, there can be no assurance that neither we nor a party required to indemnify us will be able to maintain such insurance coverage (either at all or on terms acceptable to us).

Upgrading and integrating our business systems could result in implementation issues and business disruptions.

In recent years, we implemented a project to replace many of our numerous legacy business systems at certain sites worldwide with an enterprise wide, integrated enterprise resource planning (ERP) system. The expansion of the ERP system to other international locations may occur at a future date based on value to the business. In general, the process of planning and preparing for these types of integrated, wide-scale implementations is extremely complex and we are required to address a number of challenges including data conversion, system cutover, and user training. Problems in any of these areas could cause operational problems during implementation including delayed shipments, missed sales, billing and accounting errors, and other operational issues. There have been numerous, well-publicized instances of companies experiencing difficulties with the implementation of ERP systems, which resulted in negative business consequences.

The drug discovery and development industry has a history of patent and other intellectual property litigation, and we might be involved in costly intellectual property lawsuits.

The drug discovery and development industry has a history of patent and other intellectual property litigation and these lawsuits will likely continue.

In July 2015, IDEXX Laboratories, Inc. and IDEXX Distribution, Inc. (collectively, IDEXX) filed a complaint in the United States District Court for the District of Delaware alleging we have infringed three (3) recently issued patents related to a blood spot sample collection method used in determining the presence or absence of an infectious disease in a population of rodents. In February 2017, we entered into a settlement agreement with IDEXX, which included a license to us of the relevant technology, the withdrawal by IDEXX of their complaint and withdrawal by us of our inter partes review filing.

Legal proceedings relating to intellectual property are expensive, take significant time, and divert management's attention from other business concerns, whether we win or lose. If we do not prevail in an infringement lawsuit brought against us, we might have to pay substantial damages, including treble damages, and we could be required to stop the infringing activity or obtain a license to use technology on unfavorable terms.

We may not be able to successfully develop and market new services and products.

We may seek to develop and market new services and products that complement or expand our existing business or service offerings. We believe our ability to in-license new technologies from third parties will be critical to our ability to offer new products and services to our customers. Our ability to gain access to technologies that we need for new products and services depends, in part, on our ability to convince inventors and their agents or assignees that we can successfully commercialize their inventions. We cannot guarantee that we will be able to identify new technologies of interest to our customers. Even if we are able to identify new technologies of interest, we may not be able to negotiate license agreements on acceptable terms, or at all. If we are unable to develop new services and products and/or create demand for those newly developed services and products, our future business, results of operations, financial condition, and cash flows could be adversely affected.

We depend on key personnel and may not be able to retain these employees or recruit additional qualified personnel, which would harm our business.

Our success depends to a significant extent on the continued services of our senior management and other members of management. James C. Foster, our Chief Executive Officer since 1992 and Chairman since 2000, has held various positions with us for four decades. While we recently entered into an employment agreement with Mr. Foster, most members of our senior management do not have employment agreements. If Mr. Foster or other members of senior management do not continue in their present positions, our business may suffer.

Because of the specialized scientific nature of our business, we are highly dependent upon attracting and retaining qualified scientific, technical, and managerial personnel. While we have a strong record of employee retention, there is still significant competition for qualified personnel in the veterinary, pharmaceutical, and biotechnology fields. Therefore, we may not be able to attract and retain the qualified personnel necessary for the development of our

business. The loss of the services of existing personnel, as well as the failure to recruit additional key scientific, technical, and managerial personnel in a timely manner, could harm our business.

Our quarterly operating results may vary, which could negatively affect the market price of our common stock.

Our results of operations in any quarter may vary from quarter to quarter and are influenced by such factors as:

- changes in the general global economy;
- the number and scope of ongoing client engagements;
- the commencement, postponement, delay, progress, completion, or cancellation of client contracts in the quarter;
- changes in the mix of our products and services;
- competitive pricing pressures;
- the extent of cost overruns;
- holiday buying patterns of our clients;
- budget cycles of our clients;
- changes in tax laws, rules, regulations, and tax rates in the locations in which we operate;
- the timing and charges associated with completed acquisitions and other events;
- the financial performance of our venture capital investments;
- the occasional extra week ("53rd week") that we recognize in a fiscal year (and fourth fiscal quarter thereof) due to our fiscal year ending on the last Saturday in December; and
- exchange rate fluctuations.

We believe that operating results for any particular quarter are not necessarily a meaningful indication of future results. Nonetheless, fluctuations in our quarterly operating results could negatively affect the market price of our common stock.

Referendum on the United Kingdom's membership in the European Union ("Brexit") may adversely affect our business.

On June 23, 2016, the U.K. held a referendum in which voters approved an exit from the European Union (E.U.), referred to as "Brexit." As a result of the referendum, the British government continues to negotiate the terms of the U.K.'s future relationship with the E.U. The decision by referendum to withdraw the U.K. from the E.U. caused significant volatility in global stock markets and currency exchange rate fluctuations. The execution of Brexit also may create global economic uncertainty, which may cause our customers and potential customers to monitor their costs and reduce their budgets for our products and services. In addition, Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the U.K. determines which E.U. laws to replace or replicate. Given that we conduct a substantial portion of our business in the E.U. and the U.K., these effects of Brexit, among others, could adversely affect our business, business opportunities, results of operations, financial condition, and cash flows.

Since we do not expect to pay any cash dividends for the foreseeable future, our shareholders will benefit from an investment in our common stock only if it appreciates in value.

We have not declared or paid any cash dividends on our common stock, and do not anticipate that we will pay any dividends to holders of our common stock for the foreseeable future. Any payment of cash dividends will be at the discretion of our Board of Directors and will depend on our financial condition, capital requirements, legal requirements, earnings and other factors. Consequently, our shareholders should not rely on dividends to receive a return on their investment.

Item 1B. Unresolved Staff Comments

There are no unresolved comments to be reported in response to Item 1B.

Item 2. Properties

We own or lease the land and buildings where we have facilities. We own large facilities (facilities over 50,000 square feet) for our DSA businesses in Canada, France, Ireland, Netherlands, Scotland, and the U.S. and lease large facilities in England and the U.S. We own large RMS facilities in Canada, China, France, Germany, Italy, Japan, England, and the U.S. We own large Manufacturing segment facilities in the U.S. and China. None of our leases is individually material to our business operations. Many of our leases have an option to renew, and we believe that we will be able to successfully renew expiring leases on terms satisfactory to us. We believe that our facilities in each of our reportable segments are adequate for our operations and that suitable additional space will be available when needed. For additional information, see Note 7, "Long-Term Debt and Capital Lease Obligations" and Note 13, "Commitments and Contingencies" included in Item 8, "Financial Statements and Other Supplementary Data" in this Annual Report on Form 10-K.

25

We track room utilization on an ongoing basis and depending on the needs of our clients at given times, we may need to execute on contingent plans for expansion, which average between six and fifteen months to complete.
We may also expand at specific sites in order to accommodate needs resulting from any consolidation strategy. We continue to employ a master site planning strategy to proactively evaluate our real estate needs. In certain circumstances, we dispose of or consolidate operations, which could result in impairment charges. In situations where the associated real estate is leased, and depending on the resolution of these situations, we may be encumbered with the remaining real estate lease obligations.

Item 3. Legal Proceedings

We are not party to any material legal proceedings, other than ordinary routine litigation incidental to our business that is not material to our business or financial condition.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock began trading on the New York Stock Exchange on June 23, 2000 under the symbol "CRL." The following table shows the high and low sales prices for our common stock:

Fiscal 2018	High	Low
First quarter (through January 26, 2018)	$112.47	$104.00
Fiscal 2017	High	Low
First quarter	$91.57	$75.25
Second quarter	102.32	86.44
Third quarter	109.59	94.15
Fourth quarter	119.05	99.12
Fiscal 2016	High	Low
First quarter	$81.61	$65.70
Second quarter	87.95	73.42
Third quarter	89.18	75.54
Fourth quarter	84.53	67.20

There were no equity securities that were not registered under the Securities Act of 1933, as amended, sold during fiscal year 2017.

Shareholders

As of January 26, 2018, there were 353 registered shareholders of the outstanding shares of common stock.

Dividends

We have not declared or paid any cash dividends on shares of our common stock in the past two years and we do not intend to pay cash dividends in the foreseeable future. We currently intend to retain any earnings to finance future operations and expansion.

Issuer Purchases of Equity Securities

The following table provides information relating to our purchases of shares of our common stock during the fourth quarter of fiscal 2017:

Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs