

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED December 31, 2022**

OR

**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
(State or Other Jurisdiction of
Incorporation or Organization)

251 Ballardvale Street

(Address of Principal Executive Offices)

Wilmington

Massachusetts

06-1397316

(I.R.S. Employer
Identification No.)

01887

(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	Ticker symbol(s)	Name of each exchange on which registered
Common stock, \$0.01 par value	CRL	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: Yes No

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

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 No

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files.) Yes No

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 Accelerated filer Non-accelerated filer

Smaller reporting company Emerging growth company

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.

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

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

On June 24, 2022, the aggregate market value of the registrant's voting common stock held by non-affiliates of the registrant was approximately \$11,392,457,233. As of January 25, 2023, there were 50,985,527 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 2023 Annual Meeting of Shareholders scheduled to be held on May 9, 2023, which will be filed with the Securities and Exchange Commission (SEC) not later than 120 days after December 31, 2022, are incorporated by reference into Part III of this Annual Report on Form 10-K. With the exception of the portions of the 2023 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 2022

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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,” “designed,” “would,” “future,” “can,” “could” and other similar expressions, which are predictions of, 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: our expectations regarding the availability of non-human primates and our ability to diversify our non-human primate supply chain; the outcome of the U.S. Department of Justice investigations related to shipments of non-human primates from Cambodia received by the Company; the timing of the development and implementation of additional procedures to reasonably ensure that non-human primates imported to the United States from Cambodia are purpose-bred; the COVID-19 pandemic, its duration, its impact on our business, results of operations, financial condition, liquidity, use of our borrowings, business practices, operations, demand, suppliers, inventory and supplies, third party service providers, customers, employees, industry, ability to meet future performance obligations, ability to timely account for assets on our balance sheet, ability to efficiently implement advisable safety precautions, and internal controls over financial reporting; changes and uncertainties in the global economy and financial markets, including any changes in business, political, or economic conditions due to the November 16, 2022 announcement by the U.S. Department of Justice through the U.S. Attorney’s Office for the Southern District of Florida that a Cambodian non-human primate supplier and two Cambodian officials had been criminally charged in connection with illegally importing non-human primates into the United States; client demand, particularly future demand for drug discovery and development products and services, including the outsourcing of these services; our expectations with respect to our ability to meet financial targets; 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; our ability to successfully execute our business strategy; our ability to timely build infrastructure to satisfy capacity needs and support business growth, our ability to fund our operations for the foreseeable future, the impact of unauthorized access into our information systems, including the timing and effectiveness of any enhanced security and monitoring 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 and biotechnology companies, venture capital investments, and opportunities for future similar arrangements; our cost structure; the impact of acquisitions and divestitures; our expectations with respect to revenue growth and operating synergies (including the impact of specific actions intended to cause related improvements, particularly with respect to our CDMO business); 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, divest or repurpose; 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; and our ability to withstand the current market conditions.

Forward-looking statements 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, have undergone several changes to our business structure. Charles River Laboratories International, Inc. was incorporated in 1994 and we completed our initial public offering in 2000. Our stock is traded on the New York Stock Exchange under the symbol “CRL” and is included in the Standard & Poor’s 500 and Composite

1500 indices, the Dow Jones U.S. Health Care Index, the New York Stock Exchange (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 (www.criver.com) as soon as practicable after we electronically file such material with, or furnish it to, the SEC. 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, leading, non-clinical global drug development partner with a mission to create healthier lives. We have built upon our original 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, that supports our clients from target identification through non-clinical development. We also provide a suite of products and services to support our clients’ manufacturing activities, including our contract development and manufacturing organization (CDMO) business. Utilizing our broad portfolio of products and services enables our clients to create a more efficient and flexible drug development model, which reduces their costs, enhances their productivity and effectiveness, and increases speed to market.

The development of new drugs requires a steadily increasing investment of time and money. Various studies and reports estimate that it takes between 10 to 15 years, up to \$2.5 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.

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 (R&D) 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 establish drug safety prior to and in support of human clinical trials.

For over 75 years, we have been in the business of providing the research models required in the 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 non-clinical drug research process. We are positioned to leverage our leading portfolio in non-clinical drug research in an efficient and cost-effective way to aid our clients in bringing their drugs to market faster.

Our client base includes major global pharmaceutical companies, many biotechnology companies; 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 around the world. In recent years, we have focused our efforts on improving the efficiency of our global operations to enhance our ability to support our clients. Our 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 60% outsourced or more, while emerging growth areas such as discovery and certain research model services are currently believed to be less outsourced.

We currently operate in over 150 locations and in 21 countries worldwide (excluding certain Insourcing Solutions sites). Our products and services, supported by our global infrastructure and deep scientific expertise, enable our clients to overcome many of the challenges of non-clinical life sciences research. In 2022, our total revenue was \$4.0 billion.

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

Through our RMS segment, we have provided foundational tools for the discovery of new molecules by supplying research models to the drug development industry since 1947. With over 150 different stocks and 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 and purpose-bred rats and mice. We also provide a variety of related services that are designed to support our clients in the use of research models in drug discovery and development. We maintain multiple production centers, including barrier rooms and isolator facilities, on three continents (North America, Europe, and Asia). In 2022, RMS accounted for 18.6% of our total revenue and approximately

4,200 of our employees, including approximately 190 science professionals with advanced degrees. In fiscal 2022, we acquired Explora BioLabs Holdings, Inc. (Explora BioLabs), a provider of contract vivarium research services, providing biopharmaceutical clients with turnkey *in vivo* vivarium facilities, management and related services to efficiently conduct their early-stage research activities. The acquisition of Explora BioLabs complements our existing Insourcing Solutions business, specifically our CRADL™ (Charles River Accelerator and Development Lab) footprint, and offers incremental opportunities to partner with an emerging client base.

Our DSA segment provides services that enable our clients to outsource their innovative drug discovery research, their related preclinical drug development activities, and regulatory-required safety testing of potential new drugs, vaccines, industrial and agricultural chemicals, consumer products, veterinary medicines and medical devices. The demand for these services is driven by the needs of large global pharmaceutical companies that continue to transition to an outsourced drug development model, in addition to mid-size and emerging biotechnology companies, industrial and agrochemical companies and non-governmental organizations that rely on outsourcing. These entities may choose to outsource their discovery, development and safety activities to reduce fixed costs and to gain access to additional scientific expertise and capabilities.

We are the largest provider of outsourced drug discovery, non-clinical development and regulated safety testing services worldwide. We have extensive expertise in the discovery of preclinical candidates and in the design, execution and reporting of safety assessment studies for numerous types of compounds including cell and gene therapies, small and large molecule pharmaceuticals, industrial and agricultural chemicals, vaccines, consumer products, veterinary medicines, 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. In 2022, our DSA segment represented 61.6% of our total revenue and employed approximately 13,200 of our employees including approximately 1,800 science professionals with advanced degrees.

Within our Manufacturing segment, we work with our clients and the biopharmaceutical industry to ensure the quality and safe production and release of commercial therapies and products manufactured both by our clients and internally for our clients. Our Manufacturing Segment is comprised of three businesses: Microbial Solutions, Biologics Solutions, and Avian Vaccine Services, which was divested in December 2022. Our Microbial Solutions products and services businesses provide *in vitro* methods for conventional and rapid quality control testing of sterile and non-sterile pharmaceuticals and consumer products. Biologics Solutions is comprised of both our Biologics Testing Solutions business, which provides specialized testing of biologics frequently outsourced by global pharmaceutical and biotechnology companies, and our CDMO business, which provides comprehensive contract development and manufacturing solutions for cell and gene therapies. Prior to being divested, our Avian Vaccine Services business provided specific-pathogen-free (SPF) fertile chicken eggs, SPF chickens and diagnostic products used to manufacture vaccines, principally veterinary vaccines. In 2022, Manufacturing accounted for 19.8% of our total revenue from continuing operations and approximately 3,000 of our employees, including approximately 400 science professionals with advanced degrees.

Research Models and Services. Our RMS segment is comprised of three businesses that provide foundational tools that enable our clients to discover new molecules: Research Models, Research Model Services and Cell Solutions.

Research Models. Our Research Models business is comprised of the production and sale of the most widely used small research models. A significant portion of this business involves the commercial production and sale of small research models, principally purpose-bred rats and mice for use by researchers. 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.

We provide our research models to numerous clients around the world, including most pharmaceutical companies, a broad range of biotechnology companies, contract research organizations 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 major biohubs and client concentrations. Our research models include commonly used laboratory strains, disease models and specialized strains with compromised immune systems, which are in demand as early-stage tools in the drug discovery and development process.

The research models we supply have been, and continue to be, some of the most extensively used in the world, largely as a result of our geographic footprint and continuous commitment to innovation, quality, and biosecurity. 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 scientific results. With our production capabilities, we are able to deliver consistently high-quality research models worldwide.

Our research models include:

- inbred, which are bred to be homogeneous;
- hybrid, which are the offspring of parents from two different genotypes;

- outbred, which are purposefully bred for heterogeneity;
- spontaneous mutant, whose genotype results in a naturally occurring genetic mutation (such as immune deficiency); 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 in several therapeutic areas. We are also a premier provider of high quality, purpose bred, SPF large research models to the biomedical research community.

Research Model Services. RMS offers a variety of flexible solutions 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 related to the maintenance and monitoring of research models, and managing research operations for government entities, academic organizations, and commercial clients. Our expanded service offering provides greater flexibility for our clients' research and supports increased scientific complexity. We currently have three service offerings in research models services: Genetically Engineered Models and Services (GEMS), Insourcing Solutions and Research Animal Diagnostic Services (RADS).

Genetically Engineered Models and Services. 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 one step in the discovery process, and our scientists can advise clients on how to efficiently create custom models utilizing 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 expansion, 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 proprietary, 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. We manage the research operations of government entities, academic organizations and commercial clients (including recruitment, training, staffing and management services) both within our clients' facilities and utilizing both our Charles River Accelerator and Development Lab (CRADL™) and our Explora BioLabs options, in which we provide vivarium space to our 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. We monitor and analyze the health profiles of our clients' research models and research biologics by assessing infectious agents and pathology. We developed this capability internally to address the quality control of our research model business. We can 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.

Cell Solutions. Our Cell Solutions business provides human-derived cellular materials used in the development and production of cell therapies. The business supplies controlled, consistent, customized primary cells and blood components derived from normal and mobilized peripheral blood, bone marrow, and cord blood. Our Cell Solutions business supports biotechnology and pharmaceutical companies, academic institutions and other research organizations who rely on high-quality, viable and functional human primary cells and blood components for biomedical and drug discovery research and cell therapy development, including clinical trials.

Discovery and Safety Assessment

Our DSA segment is comprised of two businesses: Discovery Services and Safety Assessment. We currently offer regulated and non-regulated DSA services to support the research, development, and regulatory-required safety testing of potential new drugs, including therapeutic discovery and optimization plus *in vitro* and *in vivo* studies, laboratory support services, and strategic non-clinical consulting and program management to support product development.

Discovery Services. Our Discovery Services business operates as a single source of services for discovering and characterizing novel drug candidates for preclinical development. We offer a full spectrum of discovery services from identification and validation of novel targets, chemical compounds and antibodies with actual or potential intellectual property value through to delivery of preclinical drug and therapeutic candidates ready for safety assessment. Our Discovery Services business includes services to streamline and enhance drug discovery programs for our clients, including an innovative, antibody discovery

platform, an integrated, end-to-end platform for therapeutic antibody and cell and gene therapy discovery and development, and large molecule and cell therapy discovery capabilities. This seamless discovery organization, along with its broad capabilities across small and large molecules, antibodies, and cell and gene therapy, allows us to better engage with clients at any stage of their drug discovery programs and support their complex scientific needs. Our Discovery Services business focuses on all of the major therapeutic areas, with a strategic focus on oncology, immunology and neuroscience. We believe there are growing opportunities to assist our clients in a variety of drug discovery applications and platforms from target discovery to candidate selection and across the full range of modalities.

We are a leader in integrated drug discovery services. Our full suite of service offerings, together with our knowledge and expertise, allows us to engage and support our clients at any stage of their discovery or early-stage development programs, including the design and implementations of their research programs, and to stay with them through the entire drug discovery process. Our Discovery service capabilities include:

- target discovery and validation;
- target deconvolution through proteomics;
- hit identification and optimization to deliver candidate molecules, including computer-aided drug design;
- early nonclinical pharmacokinetic and pharmacodynamic studies, transporter-mediated drug-drug interaction, and *in vitro* and *in vivo* assays to assess mechanism, bioavailability and metabolism as required for regulatory approval of new drugs;
- *In vivo* Discovery Services, which are essential in early stage, non-clinical discovery research, and are directed at the identification, screening, optimization and selection of effective therapeutics agents in pharmacology models. These *in vivo* activities typically extend anywhere from 1 to 7 years in conventional pharmaceutical R&D timelines; and
- target engagement biomarker development to support non-clinical and potentially downstream clinical studies.

Additionally, we offer ion channel and drug transporter testing for both discovery and non-clinical purposes. We also provide these services at our clients' laboratories with Charles River scientists as part of an insourcing service model.

Through comprehensive *in vivo* and *in vitro* offerings, Discovery Services helps to reduce the time needed to research, develop, and assess the efficacy of new therapeutics under development. Our offerings include businesses that provide critical data to advance novel therapeutics, as well as drug transporter assays and kits. We offer R&D expertise, capabilities and services globally to accelerate our clients' drug discovery pipelines from lead generation to candidate selection. 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.

Through strategic partnerships, we also offer an artificial intelligence drug design platform, a human stem cell model platform, and 3D *in vitro* oncology models.

Safety Assessment. We offer a full range of safety assessment studies required for regulatory submission on a global basis across all therapeutic areas in the pharmaceutical, biotechnology, industrial chemical, agrochemicals, consumer products, veterinary medicines and medical devices industries. Our safety assessment business also provides expertise in a variety of therapeutic areas and modalities, as well as the development of surgically implanted medical devices. Our Safety Assessment business is a global leader in both non-regulated and regulated (GLP) outsourced safety assessment services.

Toxicology. We provide a broad specialty toxicology offering from inhalation and infusion to development and reproductive toxicology. Our services include a broad offering of *in vitro* and *in vivo* capabilities and study types designed to identify possible safety risks as well as 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, reproductive and developmental toxicology, juvenile toxicology, and carcinogenicity bioassays that are required for regulatory submissions supporting "first-in-human" to "first-to-the-market" strategies for potential human therapeutics. Additionally, we support safety studies in numerous specialty areas including abuse and seizure liability, ecotoxicology, environmental risk, musculoskeletal toxicology, neurotoxicology, ocular toxicology, ototoxicology, and phototoxicology. We have expertise in the design and execution of development programs in support of a broad diversity of therapeutic modalities in numerous laboratory species and test systems. We also support safety studies to test industrial chemical, agrochemicals, consumer products, veterinary medicines and medical devices. For human pharmaceutical candidates, once a lead candidate is selected, toxicology studies are required to support clinical trials in humans and for regulatory approval. These toxicology studies focus on assessing the safety of the potential therapeutic to determine if administration to humans might cause any unintended harmful effects. For new chemicals, industrial chemicals, agrochemicals, veterinary medicines, consumer products and medical devices, safety studies are performed to identify potential hazards 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 of exposure.

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, industrial and agricultural chemicals, veterinary medicines, 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 many highly trained veterinary anatomic and clinical pathologists and other scientists who use state-of-the-art techniques to identify potential test item-related changes. 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, image analysis, tissue morphometry and stereology services.

Safety Pharmacology. Our clients are also required to conduct an assessment of Safety Pharmacology. This suite of studies is used to determine any effects on the vital organ systems of the body - cardiovascular, respiratory and central nervous system (CNS). Along with heart rate and blood pressure measurements, the cardiovascular assessment will also assess if the test article has the potential to alter cardiac ion channel currents and prolong the cardiac QT interval of the electrocardiogram. Additionally, effects on the CNS and respiratory systems are assessed to complete the battery of studies to evaluate the vital organ systems of the body. Supplemental studies can also be performed to assess the renal, gastrointestinal and autonomic nervous systems, as well as, dependency potential. We have *in vitro*, *ex vivo* (use of cells, tissues or organs outside of an *in vivo* system) and *in vivo* assays and perform the screening prior to the initiation of first-in-human clinical trials. Our capabilities can also be used to investigate the mode of action behind an adverse effect found in a safety assessment study.

Bioanalysis, Drug Metabolism and Pharmacokinetics. In support of non-clinical drug safety testing and new chemical development, 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, in the case of biologics, the presence or absence of anti-drug antibodies. We have scientific expertise in the sophisticated bioanalytical techniques required to satisfy these requirements for many drugs and chemicals. Once analysis is complete, our scientists evaluate the data to provide information on the pharmacokinetics and/or toxicokinetics of the drug or chemical and complete an evaluation of the biologic disposition of the drug or chemical 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. Toxicokinetics refers to the same understanding as applied at higher doses that may result in adverse effects. These studies are routinely required for the full non-clinical assessment of the disposition of the drug or chemical and the results are used in the safety evaluation of the compound. After performing sample analysis in support of non-clinical studies, we also support the clinical bioanalysis required in clinical trials for drug development. In addition, our Laboratory Sciences group is able to measure a wide range of nonclinical and clinical biomarkers related to the safety and efficacy of the drugs and/or chemicals being developed.

Our safety assessment facilities comply with animal welfare requirements and GLP to the extent required by the FDA, Environmental Protection Agency, United States Department of Agriculture (USDA), European Medicines Agency, European Chemicals Agency and the 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 regulations, is typically carried out under a quality management system. Our safety assessment facilities, along with our Biologics Solutions and Microbial Solutions facilities, are regularly inspected by U.S. and other regulatory compliance monitoring authorities, our clients’ quality assurance departments and our own internal quality program.

Manufacturing Solutions

Our Manufacturing Solutions segment is comprised of three businesses: Microbial Solutions, Biologics Solutions, and Avian Vaccine Services, which was divested in December 2022.

Microbial Solutions. Our Microbial Solutions business operates as a rapid, efficient testing platform for microbial detection and identification of sterile and non-sterile applications. Microbial Solutions is a premier global provider of *in vitro* methods for conventional and rapid quality control testing, including FDA-mandated lot release testing for sterile biopharmaceutical products. The products and services are provided by our Endosafe®, Celsis® and Accugenix® businesses, which produce, globally distribute and service a comprehensive portfolio of endotoxin testing, microbial detection and identification kits, reagents, instruments, software, accessories, and laboratory services to a broad range of companies manufacturing and releasing products from the pharmaceutical, biotechnology and consumer products companies, including the dairy, food and beverage markets through a strategic partnership. Our Endosafe® business provides lot release testing of medical devices and injectable drugs for endotoxin contamination. Our Celsis® business provides rapid microbial detection systems for lot release testing as well as raw materials and in-process for quality control testing in the pharmaceutical, medical device and consumer products industries. Our Accugenix® business provides state-of-the-art microbial identification services and products for manufacturing in the biopharmaceutical, medical device, nutraceutical and consumer care industries. We expect our comprehensive portfolio

of offerings and global network of laboratories to drive increased adoption of our quality control testing solutions across both sterile and non-sterile applications.

Endosafe®. 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. Endotoxin testing is an *in vitro* process that uses a processed extract from horseshoe crabs, known as limulus amoebocyte lysate (LAL). The LAL test is the first and most successful FDA-validated alternative to an *in vivo* test to date. Generally, the extraction of the raw materials for LAL does not harm the crabs, which are subsequently returned to their natural ocean environment. We have worked closely with regulatory agencies in states where we collect to limit our impact on the horseshoe crab population.

One of the primary growth drivers in our Microbial Solutions business is 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 have seen expanded use of this rapid endotoxin testing technology as clients transition from traditional methods to our rapid cartridge technology and are seeking to meet data integrity requirements with our automated systems and software solutions.

Celsis®. The Celsis® reagents and instrument systems are used for in-process and product-release testing to help ensure the safe and efficient manufacture of pharmaceutical and consumer products. Celsis® products utilize bioluminescence technology for the rapid detection of microbial contamination delivering definitive results for some applications as fast as 24 hours. The product range includes reagent kits, instruments, software and services. The Celsis Advance II™ and Celsis Accel™ instruments and software automate the process for rapid microbial detection. We maintain a suite of products focused on sterility testing. Sterility testing is required prior to the release of sterile injectable products. The legacy method required a 14-day sample incubation period and was subjective. Using the Celsis® protocol and instrumentation, clients can detect contamination within 6 days and make definitive product release decisions. We also offer Celsis Complete™ and Celsis Advantage™, and Celsis Adapt™ services. The Celsis Complete™ services supply both the documentation and testing required as part of a client sterility technology validation process. This assists customers to complete their validation process very quickly without utilizing their own personnel resources. The Celsis Advantage product supplies the required documentation needed for the clients to conduct their own internal validation. The Celsis Adapt™ is an accessory instrument for the Celsis® rapid detection systems, which is used to prepare and concentrate samples and provide a rapid testing solution for advanced therapy medicinal products, cell therapies, gene therapies, and other cell-containing products.

Accugenix®. Our Accugenix® global lab network is the premier provider of ISO17025-accredited contract microbial identification services. Accugenix® is an 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 from a network of ten global labs, Accugenix® excels in providing accurate, timely, and cost-effective microbial identification services and products required to meet internal quality standards and government regulations.

Biologics Solutions. Our Biologics Solutions (Biologics) business is comprised of our Biologics Testing Services business and CDMO business. Biologics provides clients with analytical testing and related capabilities to support the safe manufacture of their biologic drugs, as well as a suite of manufacturing services to produce our clients' advanced therapeutics.

Our current Good Manufacturing Practices (cGMP) manufacturing services facilities grow and store well-characterized early-stage client cell lines and virus seed stocks for later development or manufacture of therapeutic proteins and vaccines for clinical trials. We further design and provide viral clearance programs according to cGMP at our German facility and GLP at our U.S. facility for Phase I, II and III human clinical studies as well as for market authorization.

Biologics Testing Services

Our Biologics Testing Services business encompasses process development and quality-control testing to support the manufacture of biologics. We perform specialized testing of biologics frequently outsourced by pharmaceutical and biotechnology companies globally and are a partner in navigating the complex pathway to biologic effectiveness. Our laboratories in the U.S., Germany, Ireland and France provide timely and regulatory-compliant services in the areas of analytical, molecular biology, virology, cell-based bioassays, bioanalysis, immunochemistry, microbiology, cell biology, *in vivo* and *in vitro* studies and related services. We provide analytical characterization, lot release and safety testing support for chemistry, manufacturing and controls and investigational new drug (IND) filings and confirm that biomanufacturing of clinical drug candidates and commercial drugs 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.

To meet growing demand, we continue to expand our Biologics Testing Solutions service offerings and facilities in the U.S. and Europe. We have also commissioned a BSL3 facility to provide *in vivo* and *in vitro* testing services for BSL3 materials, such as SARS-CoV2.

CDMO Services

Our CDMO business operates in each of the three major platforms of the high-growth advanced therapy CDMO market: cell therapy, viral vector, and plasmid DNA production. Our CDMO services include primary expertise in gene-modified cell therapy with growing capabilities in gene therapy, including plasma DNA and viral vectors. Our CDMO services establish us as a premier scientific partner for cell and gene therapy development, testing, and manufacturing; enable us to provide clients with an integrated solution from basic research and discovery through cGMP production; enable us to drive efficiency and accelerate clients' speed-to-market by integrating manufacturing and the required testing; and enable our clients to seamlessly conduct analytical testing, process development, and manufacturing for advanced modalities with the same scientific partner through our integrated value chain. Similar to our cGMP facilities, our CDMO facilities also grow and store well-characterized early-stage client cell lines and virus seed stocks for later development or manufacture of therapeutic proteins and vaccines for clinical trials.

Avian Vaccine Services. Our Avian Vaccine Services business has been a 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. Our Avian Vaccine Services business had a worldwide presence with several SPF egg production facilities in the U.S., and contracted production capabilities in Hungary. It also operated a specialized avian laboratory in the U.S., providing quality control test reagents for SPF flocks, offering testing services to vaccine companies and commercial poultry operations and manufacturing poultry diagnostics and bulk antigens for poultry vaccines. Our Avian Vaccine Services business was divested in December 2022.

Our Strategy

Our objective is to be the preferred strategic non-clinical drug development 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, manufacturing and product release efforts, and enable them to bring new and improved therapies to market faster and more cost effectively.

We believe we have certain competitive advantages in executing this strategy because of our continuing focus on the following:

Integrated Early-Stage Portfolio. Our large, global portfolio of products, services and solutions 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 can collaborate with clients from target discovery through to development 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 and enables our clients to make critical drug development decisions more quickly. 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, which are all critical for making "go/no-go" decisions.

Comprehensive Biopharmaceutical Manufacturing Portfolio. We also offer a portfolio of products, services and solutions that supports the process development, scale up, quality control and production efforts of the biopharmaceutical industry. We provide products and services that support the development and release of clinical stage and commercialized biologics products, including CDMO services to manufacture advanced therapeutics for our clients. 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. To connect with our therapeutic design and testing capabilities in Discovery Services we can also manufacture cell and gene therapies for clinical and commercial use.

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 medicinal chemistry, antibody engineering, *in vitro* biology, *in vivo* pharmacology, pathology, advanced modalities manufacturing, analytical testing for late stage products, immunology, biomarker assessment, 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 independently. 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. We also continue to enhance our small molecule and biologics 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-stage development portfolio and global footprint.

Commitment to Animal Welfare. We are committed to being the worldwide leader in the humane care of research animals and implementation of the "3Rs" initiative (Replacement, Reduction and Refinement). As researchers, we are responsible to our clients, our animals and the public for the health and well-being of the animals in our care. We work closely 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 and quality. These standards help to reduce research risk and 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, non-clinical 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 and integrated infrastructure in order to improve their workload and staffing requirements. This allows our clients to reduce internal capacity and/or staff while ensuring the conduct of effective quality research for their projects. 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 an important 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 solutions on a global scale. Many of our clients, especially large biopharmaceutical companies, have decided to limit the number of suppliers with which they work. They frequently chose to partner with large companies similar to Charles River, that can offer clients support across the non-clinical 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, documentation and data visualization through secure portals, provision of data in sponsor-specific formats for data warehousing needs, accelerated reporting, reduced standard reporting timelines and industry-leading Standard Exchange of Non-Clinical Data (SEND) capabilities, a global footprint, 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.

Digital Enhancements. We believe the healthcare industry is at a unique inflection point post COVID, where vaccines and treatments were developed in record time, and there is increasing focus on personalized medicine and rare diseases. As the industry evolves, technology is playing an essential role. This technological revolution is not only helping streamline processes and operations, but the effects of this digitization directly impact patients. We are committed in our efforts to reduce the timeline to develop, safe and innovative new treatments for patients who desperately need them. To progress this forward, we strive to understand the true challenges that can slow drug research and development and re-imagine the way we work and collaborate to create digitally native solutions that improve efficiency, speed up processes and enable automated, data driven outcomes. Our commitment to understanding the problem before finding a solution has enabled us to keep clients—and ultimately patients—at the center of the way we look at problems. By using customer-centric design thinking, agile-based test and learn processes in short iterative cycles, and automating existing processes, we optimize client experiences and bring holistic solutions to pressing concerns.

Our clients' R&D needs continue to evolve. 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 vitro* models and *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 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 us 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.

Global biopharmaceutical companies are continuing to make the decision to outsource more significant tranches of their drug discovery, development and manufacturing processes. The success of our business model is underscored by the fact that we have entered into strategic commercial relationships with leading global biopharmaceutical companies and expanded existing preferred provider agreements with other leading global biopharmaceutical companies. We also continue to broaden and extend our relationships with other research institutions across the portfolio.

We believe that larger biopharmaceutical companies will increasingly focus on efficiencies and execution. They will continue to reassess their core differentiators from R&D to commercialization, and which aspects of their drug discovery, development and manufacturing processes they will choose to outsource. 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 larger pharmaceutical clients choose to utilize external resources rather than invest in internal infrastructure. By partnering with Charles River, we believe our clients can take advantage of efficiencies in their early-stage research activities that can result in months saved in getting a drug to market. In the aggregate, we believe that the evolving large biopharmaceutical R&D business model along with our focus on data and digitalization 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 commercial partnering process because these relationships are likely to extend for multiple years and drive pull-through across our portfolio. Furthermore, both the client and Charles River 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 partners at the conclusion of the initial relationship.

The evolving biopharmaceutical R&D business model, coupled with a sustained and healthy funding environment, have also led to the emergence of a significant number of new biotechnology companies in recent years that are developing innovative new therapies. The biopharmaceutical industry also continues to evolve and become more sophisticated, with research yielding new types of treatments with increasing complexity, and more targeted and individualized therapies. We believe that our portfolio provides flexible solutions and scientific expertise 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 where we work hand in hand with our clients 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 strategic imperatives are centered around our intense focus on initiatives designed to allow us to drive profitable growth, enhance our operating efficiency and better position ourselves to function successfully in the current and future business environment, which we believe will collectively enable us to maximize value for our shareholders.

In recent years, we have expanded our service capabilities into the high-growth, high-science sector of cell and gene therapy. Our goal is to deliver the fastest and highest quality end-to-end integrated solution to accelerate cell and gene therapy development and manufacturing globally by leveraging our comprehensive portfolio of cell and gene therapy capabilities with a consistent, easy-to-use, and customizable, high-science approach, while offering the flexibility to adapt and innovate to meet our client’s changing needs. In the cell and gene therapy sector, we aim to accelerate our clients’ path to market, to expand capabilities and geographic reach to complement our leading non-clinical portfolio, and to collaborate with our clients and partners to enable and commercialize the next generation of cell and gene therapy innovations. Our CDMO capabilities, combined with our comprehensive portfolio, most notably our Biologics Testing Solutions business, industry experience, and established infrastructure, helped solidify the Company as a premier scientific partner for cell and gene therapy development, testing, and manufacturing.

We intend to continue to broaden the scope of the products and services that we provide across the drug discovery and non-clinical development continuum primarily through internal development, and, as needed, through focused acquisitions and alliances. Acquisitions, such as our acquisitions of Distributed Bio, Retrogenix, Cognate, and Vigene in fiscal 2021, and Explora BioLabs in fiscal 2022, 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. We aim to consistently deliver shareholder value, including the achievement of a hurdle rate for return on invested capital above our weighted average cost of capital.

Mergers and acquisitions remain one of our top, long-term priorities for disciplined capital deployment and enhancing growth strategy with focus on enhancing the breadth of our scientific capabilities, expanding our global scale, and maintaining our leadership position in advanced and emerging therapies. Our long-term strategy also includes growth through establishing relationships and exploring other opportunities and areas that have the potential to strengthen our broad-based portfolio of products and services. In particular, our focus has been to drive differentiation through technologies that enhance the speed to develop a clinical candidate and allow biopharmaceutical companies to make earlier go/no-go decisions. Among other arrangements, these relationships may include entering into license agreements, strategic technology partnerships or joint

ventures that will allow us to access innovative capabilities and cutting-edge or nascent technologies with a modest investment component. Our ability to thoroughly assess these technologies and market opportunities may later result in an acquisition.

We also partner 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 services for each of our businesses. We also view these partnerships as an investment in new and emerging sciences and technologies as they allow us to gain insights to cutting-edge capabilities. Thus, we have the opportunity to establish ourselves as a provider of choice for a unique client group that has emerged as biopharmaceutical companies rationalize and prioritize their development pipelines.

We routinely evaluate strategic fit and fundamental performance of our businesses. Most recently, we divested our Avian Vaccine Services business in 2022, and RMS Japan and CDMO Sweden operations in 2021, as we determined these businesses were no longer a strategic fit.

Clients

Our clients consist primarily of 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 2022, no single commercial client accounted for more than 3% of our total revenue and no single client accounted for more than 8% 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 non-clinical 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 4, "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 4, "Segment and Geographic Information" included in the Notes to Consolidated Financial Statements included elsewhere in this Form 10-K.

Sales, Marketing and Customer Support

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.

Our go-to-market approach employs a number of sales and marketing strategies, including dedicated sales teams for each of our major lines of business. We also maintain several sales specialists that either have specific technical expertise (often degreed scientists) or cover unique markets.

In addition to our field sales teams and related specialists, we also have a team of alliance managers who are organized by key client within our market 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 clients benefit by additional support from a combination of technical specialists with specific scientific and therapeutic area expertise. 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 and business development teams who work in North America, Europe and Asia. 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 seminars 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 digital marketing, advertising and direct mail. In certain areas, our direct sales force is supplemented by international distributors and agents.

Our internal strategic marketing and marketing operations teams support the field sales and business development teams while developing and implementing programs to build awareness about products and services and create opportunities for interaction with our clients in the biomedical research industry. We maintain client engagement, lead development support, digital experience, and event management departments, which address both our clients' routine and more specialized needs and purposely serve as a scientific support and information resource for them. We frequently assist our clients in solving problems

related to resourcing products and services, research support, 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.

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. We also face competition from the internal discovery and development resources of our clients.

- For RMS, we have four main competitors of which one is a government funded, not-for-profit entity; one is a public company in the U.S.; one is privately held in Europe; and one is privately held in the U.S.
- For DSA, both our Discovery Services and Safety Assessment businesses have numerous competitors. Discovery Services has hundreds of competitors, but two main competitors: one is a public company in China and one is a public company in Europe. Safety Assessment has dozens of competitors of varying size, but one main competitor that is a division of a large public company in the U.S. 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. Microbial Solutions has four main competitors, of which three are public companies in Europe and one is a private company in the U.S. In addition to many smaller competitors, Biologics Solutions has five main competitors, of which three are public companies in the U.S., one is a public company in Europe, and one is a public company in China.

Industry Support and Animal Welfare

One of our core values is a concern for, and commitment to, animal welfare. Research 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 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 Imperative (HCI), which is overseen by our Global Animal Welfare and Training corporate group. The goal of HCI is to ensure that we continue as a worldwide leader in the humane care of research animals and implementation of the 3Rs (Replacement, Reduction and Refinement).

We are firmly committed to the 3Rs and to reducing the number of animals that we work with by emphasizing health, research animal behavioral management programs and genetic integrity to decrease study data variability. Whenever possible, we use technological advances such as new *in vitro* diagnostic tests for screening pathogens in laboratory rodents, microsampling and various *in vitro* assays. We support a wide variety of organizations and individuals working to further animal welfare and the 3Rs, as well as the interests of the biomedical research community. We also partner with clients to develop study designs decreasing the number of animals needed and suggesting pilot studies where appropriate. We maintain a quarterly award program that recognizes our employees' efforts to continually implement the 3Rs at our sites globally.

We provide scholarships for training in laboratory animal science, financial support to non-profit organizations that educate the public about the benefits of animal research and awards to outstanding leaders in the laboratory animal science field and the supporters of 3Rs.

Human Capital Resources

Employees

As of December 31, 2022, we had approximately 21,400 employees (including approximately 2,600 science professionals with advanced degrees, including Ph.D.s, D.V.M.s and M.D.s). Approximately 20,000 of our employees are considered full-time employees, while approximately 1,400 are considered part-time employees. Our workforce was distributed geographically approximately as follows: 63% in North America, 31% in Europe, and 6% in Asia, and less than 1% in any other region.

Our employees are not unionized in the U.S. Employees at some of our European facilities are represented by works councils, employee representative groups and/or unions, which is consistent with local customs for our industry. We collaborate with the works councils and believe we have good relationships with our employees.

Values

At Charles River, our values of Care, Lead, Own, and Collaborate guide our decisions and actions; they are standards we hold ourselves to each and every day and are critical to success in fulfilling our goals. In addition, our CRL DNA are the behaviors based on these values that we use to make decisions, grow our future leaders, and pave the way for years ahead.

Talent Management and Engagement

Sustaining our company culture is a vital part of our strategy. Our culture is built on trust, inclusion, accountability, respect, and well-being. Our objective is to enable colleagues to connect with their work in a way that supports each other, our clients, and our communities. We strive to maintain an environment wherein every person has the ability to deliver on business commitments, while having purpose, being energized, continuously learning, and delivering quality outcomes that make a difference. In the past year, we have developed a unique employer brand that is infused in other aspects of our employee experience. We pride ourselves on supporting our people both professionally and personally throughout their employee experience with us.

In order to attract, onboard, support, and retain such great talent, we provide our employees with opportunities for skill building and career advancement. Beginning with our onboarding program, our talent management approach is structured to be highly collaborative, encourages ownership, and provides the opportunity to contribute and develop through regular performance conversations, annual goal setting, and ongoing feedback. Furthermore, we have created a global learning strategy that includes technical training, mentoring and coaching approaches, tuition reimbursement, sabbaticals, leadership development programs, and on-the-job training. In fiscal 2022, we hired over 5,700 people and our voluntary turnover for all employees was approximately 15%, a portion of which percentage we attribute to the national trend of increased attrition in the workplace. Additionally, we conduct regular talent reviews to identify and develop diverse leadership and key talent pipelines to delivery on short-term and long-term business strategy.

Our engagement surveys are in the form of frequent, shorter engagement “Pulse” surveys. These Pulse surveys were issued three times during 2022 and serve as a foundation for more meaningful conversations and actions between our people and people leaders to continue making Charles River a best place to work, learn, and grow.

In addition to growth opportunities, we strive to attract, motivate, and retain top talent by providing competitive compensation programs while rewarding outcomes and behaviors that align with our performance, culture, and values. While we perform pay equity audits in countries where they are legally required, we also perform a larger pay equity analysis on a global scale and take corrective action where appropriate as part of our continuing efforts to be competitive in the marketplace. Furthermore, our global job architecture generally allows for aligning pay by job role with market rates and serves as a career path tool to encourage a culture of advancement.

Health and Safety

We also promote a healthy and safe workplace for our employees. We maintain a Global Policy on Safety & Sustainability and, as part of our efforts to promote our goals of working safely and sustainably, in early 2020 we implemented a management systems approach to improve our safety performance, which involves both employee and management engagement in and ownership of our site-level environment, health, safety, and sustainability programs globally. At every Charles River site globally, we have health and safety leaders that promote employee health and safety and keep site management engaged in their health and safety programs.

Diversity, Equity and Inclusion

We are also committed to cultivating a welcoming and inclusive environment where every employee can succeed and thrive. Operating in over 150 locations and in 21 countries worldwide (excluding our Insourcing Solutions sites), we believe in treating our employees and prospective talent with dignity, decency, and respect. We recognize that employee diversity contributes to a more innovative workforce and see diversity and inclusivity as a strength for our business. Our commitment to equity spans across our employment-related decisions, from hiring and promotions, to transfers and compensation and career development programs. Our aim is to continue to build a talented workforce reflective of the global communities in which we live and work, and it is critical that our people feel like valued members of our Company. We believe that we have taken positive steps to promote a sense of belonging for our employees in the workplace by building a Diversity, Equity & Inclusion team and Chief Executive Officer-chaired Diversity, Equity and Inclusion council; expanding diverse representation at our Board level; launching employee resource groups; facilitating training on mitigating unconscious bias and creating inclusion for our people leaders and talent acquisition teams; and rolling out a Diverse Interview Panel initiative. This year, we have also set goals to increase engagement in diversity, equity and inclusion; increase participation in our employee resource groups; and maintain strong engagement and belonging scores on our employee engagement surveys. In addition to our internally focused efforts, we also actively engage with our clients and suppliers to share best practices. As of December 31, 2022, women made up

approximately 60% of our global workforce, 59% of our U.S. workforce and 38% of our global leadership positions, defined as positions carrying the title of Vice President or higher. From our U.S. workforce, 31% identified as racial and ethnic minorities.

Backlog

Our backlog for our RMS, DSA and Manufacturing reportable segments was approximately \$282 million, \$3.1 billion and \$116 million, respectively, as of December 31, 2022, as compared to \$266 million, \$2.4 billion and \$136 million, respectively, as of December 25, 2021. 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 31, 2022 backlog may be completed in 2023, 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 may not 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. Refer to Item 1A, "Risk Factors" and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosed herein for our assessment of certain relevant risk factors.

Regulatory Matters

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

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 bred for use in research. As a result, most of our U.S. small animal research model operations are not subject to regulation under the AWA. For regulated species, the AWA and the associated Animal Care regulations require producers and those working with regulated species to provide veterinary care and to follow specific husbandry practices such as cage size, shipping conditions, sanitation and environmental enrichment to ensure 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 published by the Institute for Laboratory Animal Research.

We comply with licensing and registration requirement standards set by the USDA and U.S. Fish and Wildlife Service (USFWS), and similar applicable agencies in other global regions such as Europe and China for the care, handling and oversight of regulated species. Our DSA and RMS facilities that work with or produce research animals in North America, Europe, and China are accredited, with the exception of new and recently acquired facilities that are in the process of planning for accreditation, by the AAALAC International, a private, nonprofit 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 applicable 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 only use accredited and experienced transporters for importing and exporting who are specialists in their field. We comply with global requirements which are evaluated by import and export authorities at each point of exit and entry.

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 scientific, operational and quality 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, 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 applicable 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 electronic records and signatures generated by computerized systems to ensure data integrity. We have established corporate data integrity governance to manage regulatory

and client expectations regarding data integrity within our regulated businesses. Although each business has a different impact on patient safety, all are expected to generate and preserve data with integrity. We recognize the importance of generating quality, reliable, sustainable data and have instituted several processes and established a global governance team with oversight responsibilities for our Data Integrity Compliance Plans to ensure we are consistent in our approach. To ensure 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 are met for compliance.

At a global level, retention of data and controls for electronic systems, proprietary data and quality standards are covered by global policies. We also have controls in place such as quality manuals, policies and procedures, work instructions, document control processes, training, quality assurance and quality control processes and personnel, validated computerized systems and archiving requirements. Within businesses, procedures govern performance of activities to ensure data integrity throughout its life cycle.

Our Manufacturing businesses produce FDA licensed endotoxin test kits, sterility and microbial limits test kits, reagents, cell banks used in research and biopharmaceutical production, clinical trial vaccines and vaccine support products. Additionally, several of our laboratories conduct biosafety and analytical testing such as identity, stability, sterility and potency and viral clearance testing in support of our clients' manufacturing programs and to fulfill their validation requirements, as applicable.

Our comprehensive cell and gene therapy manufacturing services include Good Manufacturing Practices (GMP) production of cells from pre-clinical to commercial applications from a variety of starting materials. Many of these activities are subject to regulation and consequently require these businesses to be inspected by the FDA and other national and applicable state regulatory agencies under their respective cGMP regulations. These regulations require that we manufacture 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 GMP sites are subject to registration, licensing and regulation, as appropriate 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 regulatory compliance programs are managed by a dedicated group responsible for regulatory affairs and compliance. Our compliance programs are also managed by global quality systems, such as vendor supplier programs, enterprise quality management systems and global computer system validation. Within each regulated business, we have established Quality Assurance Units (QAUs) responsible for risk based internal audit programs to manage regulatory requirements and client expectations. The QAUs operate independently from those individuals that direct and conduct studies, manufacturing or analytical testing. Our Data Integrity Compliance Program ensures that senior management and the QAU's have proper oversight of our electronic records, inclusive of quality function reviews of our computerized system practices to ensure that appropriate record controls are in place and that a robust audit strategy confirms requirements for compliance.

While we expect that capital expenditures will be necessary to ensure that our existing sites remain in compliance with all applicable regulations, at this point we do not expect these expenditures to materially differ than our historical experience.

Intellectual Property

We develop and implement computer software and scientifically-driven products and procedures to maximize the quality and effectiveness of our offerings. Intellectual property rights, in the form of know-how, trade secrets, patents, trademarks, copyrights, and others are important to us and are valuable to our ability to provide significant benefits to our clients. Steps are taken to protect our intellectual property rights and include the execution of confidentiality agreements and securing registrations in relevant jurisdictions. In addition, we license technology from other companies when it enhances our product and services businesses. Licensing has recently become a larger company-wide initiative, particularly as we increase our focus on innovative technologies that further diversify and enhance our portfolio.

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 NYSE, the SEC and the U.S. Federal government as implemented by the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and other applicable laws, rules and regulations. Nine of the eleven members of our Board of Directors are independent and have no significant financial, business or personal ties to us or management. Our Audit Committee, Compensation Committee, and Corporate Governance and Nominating Committee of our Board of Directors are each composed entirely of independent directors. The Board adheres to our Corporate Governance Guidelines and a Code of Business Conduct and Ethics that 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 an established 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 to help ensure that our public disclosures, including our periodic reports filed with the SEC, earnings releases and other written information that we disclose to the investment community are complete, accurate and timely. We continually monitor developments in the law and stock exchange regulations, as well as overall corporate governance trends and intend to adopt new procedures consistent with such developments to the extent applicable to and appropriate for our Company. 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> under the “Investor Relations - Corporate Governance” caption.

Information about Our Executive Officers

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 72, 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 and President in 1992 and our Chairman in 2000.

William D. Barbo, age 62, 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.

Victoria Creamer, age 53, joined us in January 2019 as Senior Vice President, Chief People Officer. In October 2020, Ms. Creamer was promoted to Corporate Executive Vice President. Prior to joining the Company, from 2015 to December 2018, Ms. Creamer served as Senior Vice President, Human Resources and Communications for ITT, Inc., a manufacturing company, where she was responsible for providing vision, leadership and execution of the company’s people and communications strategies.

Birgit Girshick, age 53, joined us in 1989 and originally 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, Global Discovery and Safety Assessment and in August 2018, additionally took on responsibility for our Biologics Solutions and Avian Vaccine Services business. In 2021, she also assumed responsibility for the company’s Cell and Gene Therapy CDMO business. In November 2021, Ms. Girshick was promoted to Chief Operating Officer of the Company, adding the Research Models and Services and Microbial Solutions businesses to her responsibilities.

Joseph W. LaPlume, age 49, joined us in 2005 as Senior Corporate Counsel. He became Deputy General Counsel in 2010, Vice President, Corporate Development in 2011, Senior Vice President in 2014 and Corporate Executive Vice President, Corporate Development and Strategy in January 2019. In his current role, he oversees all aspects of strategic planning and corporate development activities across business segments and geographies. Prior to joining us, Mr. LaPlume was a corporate lawyer at GTECH Corporation and in private practice at the law firms of Mintz Levin and Goulston & Storrs.

Shannon Parisotto, age 49, joined us in 2000 in our Nevada operation. Ms. Parisotto progressed through a number of finance management positions of increasing responsibility, and in 2010, was promoted to Corporate Vice President, Preclinical Services, Finance. In this role, Ms. Parisotto was responsible for the financial operations of the global Preclinical Services business. Beginning in 2011, Ms. Parisotto’s role was expanded to include additional business segments, and in 2015, she was

promoted to the newly created position of Corporate Senior Vice President & Controller, Global Operations, where she worked collaboratively with Charles River's business units to develop and implement business strategies. In 2020, Ms. Parisotto was promoted to Corporate Senior Vice President, Global Safety Assessment, where she was responsible for leading the Company's global Safety Assessment organization, and positioning the business for continued, long-term growth and success. In October 2022, Ms. Parisotto was promoted to Corporate Executive Vice President, and assumed the additional oversight of the Discovery Services business to lead its strategic vision and operational growth, as well as enhance the synergies between the businesses and with clients across the global Discovery and Safety Assessment segment. Ms. Parisotto holds a B.S. in Accounting from the University of Nevada, Reno, an M.B.A. from the University of Phoenix, and is a Certified Public Accountant.

Flavia Pease, age 50, joined us in 2022 as Corporate Executive Vice President and Chief Financial Officer. Prior to joining Charles River, Ms. Pease served as Vice President and Group Chief Financial Officer of Johnson & Johnson's global Medical Devices businesses since 2019. During her more than twenty-year tenure at Johnson & Johnson, Ms. Pease served as Vice President, Finance for Janssen North America from 2016 to 2019; Vice President of the Enterprise Program Management Office from 2014 to 2016; Vice President of Finance for Janssen Supply Chain from 2012 to 2014; and a Vice President of Finance, leading the integration of the Mentor and Acclarent acquisitions from 2009 to 2012. Ms. Pease began her career at Johnson & Johnson in 1998 with the LifeScan business and subsequently held finance leadership positions within Mergers and Acquisitions Analysis and Johnson & Johnson Medical Brazil.

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, as well as additional risks and uncertainties either not presently known or that are currently believed to not be material to the business, may cause our actual results to differ materially from expected and historical results. 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 and the risks described below should be carefully considered together with the other information set forth in this report and in future documents we file with the SEC.

Risk Factor Summary

As noted above, we are subject to a number of risks that if realized could cause actual results to differ materially from the results contemplated herein. Some of the more significant risks and uncertainties we face include those summarized below. The summary below is not exhaustive and is qualified by reference to the full set of risk factors set forth in this "Risk Factors" section. Please carefully consider all of the information in this Form 10-K, including the full set of risks set forth in this "Risk Factors" section, and in our other filings with the SEC before making an investment decision regarding Charles River.

Business and Operational Risks

- We bear financial risk for contracts that may be terminated or reduced in scope, underpriced, subject to cost overruns or delays.
- Upgrading and integrating our business systems could result in implementation issues and business disruptions.
- We have in the past experienced and in the future could experience unauthorized access into our information systems.
- If we are not successful in executing our business strategy, including our failure in selecting and integrating the businesses and technologies we acquire, or in managing our current and future divestitures, our business may be adversely impacted.
- Our business is subject to risks relating to operating internationally, including changes in foreign currency exchange rates.
- Our business, results of operations, or financial condition could be adversely affected by disruptions in the global economy caused by the ongoing conflict between the Russian Federation and Ukraine.
- Our operations might be affected by the occurrence of a natural disaster or other catastrophic event, such as the COVID-19 pandemic.
- Negative attention from special interest groups may impair our business.

Industry Risk Factors

- Several of our product and service offerings, including our non-human primate supply, are dependent on a limited source of supply that, when interrupted, adversely affects our business.

- A reduction in demand or a reduction or delay in government funding of R&D may adversely affect our business.
- 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.
- Contract development and manufacturing services create a risk of liability, including risk that our products will not gain market acceptance and risk of failure to provide quality and timely service to customers.
- 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.
- The outsourcing trend in non-clinical stages of drug discovery and development may decrease, which could impair our growth.
- The industries in which we operate are highly competitive.
- New technologies may be developed, validated and increasingly used in biomedical research, which could reduce demand for some of our products and services.
- We may not be able to successfully develop and market new services and products.
- Costs increasing more rapidly than market prices could reduce profitability.

Legal and Regulatory Risk Factors

- 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.
- Failure to comply with applicable data privacy and security laws in various jurisdictions could subject us to denial of the right to conduct business, fines, criminal penalties and/or other enforcement actions that could have a material adverse effect on our business.
- Failure to comply with U.S., state, local or international environmental, health and safety laws and regulations could result in fines and penalties and loss of licensure, and have a material adverse effect upon the Company's business.
- Changes in U.S. and International Tax Law or material changes in our stock price could have a material adverse impact on our effective tax rate.
- Non-clinical contract research services create a risk of liability.
- The failure to successfully obtain, maintain and enforce intellectual property rights and defend against assertions of third-parties to intellectual property rights could adversely affect us.
- Our by-laws designate the state courts located in the State of Delaware as the sole and exclusive forum for certain actions, which could limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable and may discourage lawsuits with respect to certain claims.

Labor and Employment Risk Factors

- We depend on key personnel and may not be able to retain these employees, which would harm our business.
- If we are unable to attract, hire or retain key team members or a highly skilled and diverse global workforce, it could have a negative impact on our business, financial condition or results of operations.
- We depend on the availability of, and good relations with, our team members.

Financial and Accounting Risk Factors

- Our debt level could adversely affect our business and growth prospects.
- Impairment of goodwill or other intangible assets may adversely impact future results of operations.

General Risk Factors

- 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.
- Our quarterly operating results may vary, which could negatively affect the market price of our common stock.
- Increasing focus on environmental, social and governance matters may impact our business, financial results or stock price.

Risk Factors**Business and Operational Risks*****We bear financial risk for contracts that may be terminated or reduced in scope, underpriced, subject to cost overruns or delays.***

Many of our agreements, including those which underlie our strategic relationships with some of our more significant clients, allow 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.

Our counterparties (including our clients who are competitors) may elect to terminate their agreements with us for various reasons including: the invocation of force majeure clauses, or the legal doctrines of impossibility or impracticability, or other similar legal doctrines, as a result of the COVID-19 pandemic; 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; our competitors' establishment of alternative distribution channels; dissatisfaction with our performance under the agreement; the loss of funding for the particular research study; or general convenience/counterparty preference. If a counterparty 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; however, in many cases we are not entitled to any termination fees in the event of a termination. 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.

Furthermore, 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 underprice our contracts or otherwise overrun our cost estimates. Such underpricing or significant cost overruns could have an adverse effect on our business, results of operations, financial condition and cash flows.

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

In recent years, we have been updating and consolidating systems and automating processes in many parts of our business with a variety of systems, including in connection with the integration of acquired businesses. The expansion and ongoing implementation of operational systems 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 information security assessment and remediation, data conversion, associated regulatory compliance, network and system cutover, user training, and integration with existing processes or systems. As we build out IT infrastructure to support regulatory requirements for applications and data systems, we are doing so utilizing contemporary validation practices. As with all work conducted in our regulatory sites, these too are subject to government inspections. Incongruities in any of these areas could cause operational problems during implementation including inconsistent practices, delayed report and/or data shipments, missed sales, billing errors and accounting errors.

We have in the past experienced and in the future could experience unauthorized access into our information systems.

We operate large and complex information 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 information systems to steal data or disrupt the systems or for financial gain. Like other companies, we have on occasion experienced, and will continue to experience, threats and incursions to our data and systems, including malicious software and viruses, phishing, business email compromise and social engineering attacks or other cyber-attacks. The number and complexity of these threats continue to increase over time.

While we have taken measures to protect our information systems from intrusion, in March 2019, we detected evidence that an unauthorized third party, who we believe was well resourced and highly sophisticated, accessed certain of our information systems and copied data. We worked with a leading cyber security firm to assist in our investigation and coordinated with law enforcement authorities. Our investigation indicated that the affected information included client information.

In December 2019, we disclosed that we had completed our remediation of the incident identified in March of 2019. We have not experienced an information security breach or material cybersecurity incident within the last three years. While we have implemented additional security safeguards and continue to enhance existing safeguards, such efforts may not be successful, in which case we could suffer significant harm.

Further, we are at risk of being targeted, and we have in the past been victim to, business email compromise fraud, which results in payments being made to illegitimate bank accounts. Although these instances have not resulted in our incurring material losses, if similar instances occur in the future, we may incur such losses.

Our contracts with our clients typically contain provisions that require us to keep confidential the information generated from the studies we conduct. In the event the confidentiality of such information is compromised, whether by unauthorized access or other breaches, we could be exposed to significant harm, including termination of customer contracts, damage to our customer relationships, damage to our reputation and potential legal claims from customers, employees and other parties. In addition, we may face investigations by government regulators and agencies as a result of a breach.

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 be adversely impacted.

During the last two decades, we have steadily expanded our business through numerous acquisitions, including our recent acquisitions of Distributed Bio, Retrogenix, Cognate, Vigene, and Explora BioLabs. 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.

Acquisitions and alliances involve numerous risks which may include:

- difficulties in achieving business and financial success (due to unplanned events such as the COVID-19 pandemic and the long-term economic impact of the pandemic and the ongoing conflict between the Russian Federation and Ukraine);
- difficulties and expenses incurred in assimilating and integrating operations, services, products, information technology platforms, technologies or pre-existing relationships with our clients, distributors and suppliers;
- challenges with developing and operating new businesses, including those that are materially different from our existing businesses, which may require the development or acquisition of new internal capabilities and expertise;
- potential losses resulting from operational weaknesses or undiscovered liabilities of acquired companies that are not covered by the indemnifications we may obtain from sellers or any insurance we may acquire in connection with transactions;
- 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;
- a more expansive regulatory environment;
- dilution to earnings, or in the event of acquisitions made through the issuance of our common stock to the shareholders of the acquired company, dilution to the percentage of ownership of our existing shareholders;
- 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 that cause businesses or assets we acquire to become less valuable; and
- disagreements or disputes with prior owners of an acquired business, technology, service or product that may result in legal settlements, litigation expenses and diversion of our management's attention.

If 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, product line or service offering. We continually evaluate the performance and strategic fit of our business to determine whether any divestitures are appropriate. Such divestitures could involve additional risks, other than those listed above, including: difficulties in the separation of operations, services, products, and personnel, the need to agree to retain or assume certain current or future liabilities in order to complete the divestitures, and write-offs, including those related to goodwill and other intangible assets and 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 or service offering and, as a result, we may not achieve some or all of the expected benefits of the divestitures.

Failure to execute our business strategy could adversely impact our growth and profitability.

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. 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. If we are unable to successfully execute on this strategy, this could negatively impact our future results of operations and market capitalization.

Any decline or lower than expected growth in our served markets could diminish demand for our products and services, which would adversely affect our results of operations and financial condition. To address this issue, we are pursuing a number of strategies to improve our internal growth, including strengthening our presence in selected geographic markets through organic growth and strategic acquisitions and expanding our service offerings, including our expansion into the CDMO business. We may not be able to successfully implement these strategies, and these strategies may not result in the expected growth of our business.

Furthermore, our strategy assumes a certain degree of capital and capacity growth development. Factors such as insufficient capital, inflation, supply chain interruptions, inadequate forecasting, increases in construction material costs, or labor shortages could interfere with the successful execution of our strategy and our ability to timely build infrastructure to satisfy capacity needs and support business growth. For additional discussion of our business strategy, please see the section above entitled "Our Strategy."

Our business is subject to risks relating to operating internationally, including changes in foreign currency exchange rates.

A significant part of our revenue is derived from operations outside the U.S. We expect that international revenue will continue to account for a significant percentage of our total revenue for the foreseeable future.

Changes in foreign currency exchange rates, could materially adversely impact our results. 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, resulting in a reduction in the amount of revenue and cash flow (and an increase in the amount of expenses) that we recognize and causing fluctuations in reported financial results. We also carry foreign currency exposure associated with differences between where we conduct business. For example, certain contracts are frequently denominated in currencies other than the currency in which we incur expenses related to those contracts. 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.

Our exposure to currency exchange rate fluctuations results from the currency translation exposure associated with the preparation of our consolidated financial statements, as well as from the exposure associated with transactions of our subsidiaries that are denominated in a currency other than the respective subsidiary's functional currency. While our financial results are reported in U.S. Dollars, the financial statements of many of our subsidiaries outside the U.S. are prepared using the local currency as the functional currency. During consolidation, these results are translated into U.S. Dollars by applying appropriate exchange rates. As a result, fluctuations in the exchange rate of the U.S. Dollar relative to the local currencies in which our foreign subsidiaries report could cause significant fluctuations in our reported results. Moreover, as exchange rates vary, revenue and other operating results may differ materially from our expectations. Adjustments resulting from financial statement translations are included as a separate component of shareholders' equity.

Other risks associated with our international business include:

- general economic and political conditions in the markets in which we operate, including implications of the COVID-19 pandemic;
- potentially negative consequences from changes in U.S. and/or foreign tax laws, or interpretations and enforcement thereof, notably tax regulations issued and to-be-issued with respect to the potential adoption of global minimum taxation requirements and potential changes to existing tax law by the current U.S. Presidential administration and Congress;
- 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 COVID-19 pandemic related suspensions of operations, 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 (FCPA), 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 (including as a result of the COVID-19 pandemic);
- the difficulties of compliance with a wide variety of foreign laws and regulations (including those relating to the COVID-19 pandemic);
- unfavorable labor regulations in foreign jurisdictions (including those relating to the COVID-19 pandemic);
- longer accounts receivable cycles in certain foreign countries (including as a result of the COVID-19 pandemic and the impact of measures intended to reduce the spread of COVID-19);
- potentially reduced protection of our intellectual property rights in certain foreign countries; and
- compliance with export controls, import requirements and other trade regulations, including those relating to certain products of which there is limited supply.

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 FCPA, which prohibits companies and their third-party intermediaries from offering or making improper payments to foreign government officials for the purpose of obtaining or retaining business. Likewise, we are also subject to other international anti-bribery laws such as the UK Bribery Act which prohibit companies and their third-party intermediaries from offering or making improper payments to commercial parties. While our employees and third-party intermediaries 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 business, results of operations, or financial condition could be adversely affected by disruptions in the global economy caused by the ongoing conflict between the Russian Federation and Ukraine.

In February 2022, the Russian Federation launched an invasion of the country of Ukraine, resulting in negative impacts to the global economy. Furthermore, governments in the U.S., Canada, the United Kingdom, and European Union have each imposed export controls on certain products and financial and economic sanctions on certain industry sectors and parties in Russia. Although we have no operations in Russia or Ukraine, we have ceased doing business with our Russian customers and distributors. Additional risks to our business that may emerge as a result of the armed conflict include, among others, shortages in materials; increased costs for transportation, energy, and raw materials; adverse changes to international trade policies and relations, including increased trade barriers or restrictions on global trade; cyberattacks; supply disruptions; lower consumer demand; and changes to foreign exchange rates and financial markets, any of which may adversely affect our business and supply chain.

Our operations might be affected by the occurrence of a natural disaster or other catastrophic event, and have been (and will continue to be) affected by the COVID-19 pandemic.

We depend on our customers continued demand and solvency at our facilities for the continued operation of our business. While we maintain disaster recovery plans, they might not adequately protect us. Despite any precautions we take for natural disasters or other catastrophic events, these events, including terrorist attack, a pandemic (including the COVID-19 pandemic), epidemic or outbreak of a disease, hurricanes, tornadoes, fire, floods and ice and snow storms, could result in damage to and closure of our or our customers' facilities or the infrastructure on which such facilities rely. As described herein, the COVID-19 pandemic has already, and may continue to, disrupt our operations, though the full extent of such impact remains uncertain. Such disruptions could include significant delays in the shipments of our products, reduce our capacity to provide services, adversely impact unique manufacturing capabilities, result in our customers' inability to pay for our products or services and, ultimately, result in the loss of revenue and clients. Although we carry business interruption insurance policies and typically have provisions in our contracts that protect us in certain events, our coverage might not be adequate to compensate us for all losses that may occur. Any natural disaster or catastrophic event affecting us or our customers could have a significant negative impact on our operations and financial performance.

On March 11, 2020, the World Health Organization declared the outbreak of a strain of novel coronavirus disease, COVID-19, a global pandemic. The COVID-19 pandemic is dynamic and evolving, and its ultimate scope, duration and effects are uncertain. This pandemic has and continues to result in, and any future epidemic or pandemic crises may potentially result in,

direct and indirect adverse effects on our industry and customers, which in turn has (with respect to COVID-19) and may (with respect to future epidemics or crises) impact our business, results of operations and financial condition. Further, the COVID-19 pandemic may also affect our operating and financial results in a manner that is not presently known to us. Effects of the pandemic have included, or may in the future include, among others:

- deterioration of worldwide, regional or national economic conditions and activity, which adversely affects global demand for our products and services;
- disruptions to our operations as a result of the potential health impact on our employees and crew, and on the workforces of our customers and business partners;
- temporary and/or partial closures of our facilities or the facilities of our customers (including academic institutions, government laboratories and private foundations) and third-party service providers;
- interruption of the operations of global supply chains and those of our suppliers;
- constraints on international routes for shipment of products and materials impact timelines to support client demands;
- disruptions to our business from, or additional costs related to, new regulations, directives or practices implemented in response to the pandemic, such as travel restrictions, shelter in place/stay in place/work from home orders, increased inspection regimes, hygiene measures (such as quarantining and physical distancing) or increased implementation of remote working arrangements;
- reduced cash flows and financial condition, including potential liquidity constraints;
- reduced access to capital, including the ability to refinance any existing obligations, as a result of any credit tightening generally or due to declines in global financial markets, including to the prices of publicly-traded equity securities of us, our peers and of listed companies generally;
- deterioration in the financial condition and prospects of our customers or attempts by customers, suppliers or service providers to invoke force majeure contractual clauses, or the legal doctrines of impossibility or impracticability, or other similar doctrines, as a result of delays or other disruptions;
- delays in the commencement of, or the suspension or cancellation of, client studies; and
- the effects described elsewhere in these Risk Factors.

The COVID-19 pandemic has caused us to modify our business practices, including but not limited to health management of employees, customers and suppliers, management of production inventory, supply chain risk management, compensation practices and capital expenditure planning. We have formed a tiered structure of designated COVID-19 crisis management teams throughout our organization to identify, implement and monitor such actions as required by the dynamic exigencies arising from the pandemic. Such measures and others may not be sufficient to mitigate all the risks posed by COVID-19, and our ability to perform critical functions could be materially adversely affected.

Although disruption and effects from the COVID-19 pandemic may be temporary, given the dynamic nature of these circumstances and the worldwide nature of our business and operations, the duration of any business disruption and the related financial impact to us cannot be reasonably estimated at this time but could materially affect our business, results of operations and financial condition.

Negative attention from special interest groups may impair our business.

The products and services that 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. Furthermore, the habitat of certain animals used for research purposes may be located in or near certain environmentally protected areas or conservation areas. Activities conducted by us or any of our agents within these areas may be legally challenged and result in similar negative attention and action from environmental protection activists, including advocacy for the expansion of environmental restrictions applicable to such areas. Any negative attention, threats, acts of vandalism or legal

action directed against our animal research or procurement activities, or our third-party service providers, such as our airline carriers or suppliers, or that restrict our or their ability to access protected or conservation areas, could impair our ability to operate our business efficiently.

Industry Risk Factors

Several of our product and service offerings, including our non-human primate supply, are dependent on a limited source of supply that, when interrupted, adversely affects our business.

We depend on a limited international source of supply for certain products, such as large research models, including non-human primates. Disruptions to their continued supply from time to time arise from health problems (including as a result of the COVID-19 pandemic and the spread of other diseases), export or import laws/restrictions or embargoes, tariffs, inflation, 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, geopolitical disputes, measures intended to slow the spread of COVID-19 or other ordinary course or unanticipated events. Any disruption of supply could materially harm our business if we cannot remove the disruption or are unable to secure an alternative or secondary supply source on comparable commercial terms.

As with other industry participants, certain of our activities rely on a sufficient supply of large research models, which has seen increasing demand as compared to supply in recent years due to a variety of factors. First, the surge of research relating to COVID-19 increased short-term demand. Second, China previously supplied a significant portion of certain critical large research models, which have been subject to geographic export restrictions applicable to many animal species since the beginning of the COVID-19 pandemic. And third, in concert with legal matters affecting the Cambodian supply of non-human primates, the non-human primate supply chain globally has recently experienced constriction. More broadly, in November 2022 the U.S. Department of Justice (DOJ) announced that a Cambodia supplier of non-human primates and two Cambodian officials had been criminally charged in connection with illegally importing non-human primates into the United States. While the Company was not named or referenced in the November 2022 proceedings, the Company shortly thereafter announced that Cambodia was the primary country of origin of non-human primates imports to Charles River, and that it had begun to operate under the expectation that for some time period supply of Cambodia-sourced non-human primates (which according to CDC statistics, account for approximately 60% of supply to the United States) would be difficult to obtain in the United States. Subsequent to the Company's announcement, USFWS denied clearance to certain shipments of non-human primates the Company had received from Cambodia. And as noted in Item 3. "Legal Proceedings" in this Annual Report on Form 10-K, in February 2023 the Company was informed by the DOJ that in conjunction with the U.S. Fish and Wildlife Service (USFWS), they had commenced a grand jury investigation into the Company's conduct regarding several shipments of non-human primates, which is occurring in parallel to a civil investigation being undertaken by the DOJ and USFWS. In connection with the civil investigation, the Company has voluntarily suspended planned future shipments of Cambodia non-human primates until such time that the Company and USFWS can agree upon and implement additional procedures to reasonably ensure that non-human primates imported to the United States from Cambodia are purpose-bred. Accordingly, the Company believes that for some undetermined period of time it will not be able to obtain Cambodia-sourced non-human primates.

While we continue to take steps to find alternative supply channels (and other global sources) and lock in supply (both for non-human primates and with respect to other limited supply products) with preferred sources through multi-year and/or minimum commitment contracts, there are limited sources and such mitigating efforts may not prove successful at ensuring a steady and timely supply or may require (and in the past have required) us to pay significantly higher prices for such products during periods of global shortage or restrictions on the importation or the transportation of models products. Limited global supply or regional restrictions on transportation for certain products may require us to source products from non-preferred vendors, which may not be successful. In addition, reductions in global air transportation routes may result in sourcing alternative transportation at an increased cost. Finally, we may be unable to obtain supply due to governmental restrictions or limitations, including (as noted above) non-human primates. An inability to obtain a sufficient and timely supply of critical products could adversely affect our business, financial results and results of operations.

Further, portions of our Cell Solutions business depends on the availability of appropriate donors. As a result of the COVID-19 pandemic and the impact of measures intended to reduce the spread of COVID-19, we temporarily suspended blood donations at one of our Cell Solutions facilities in early 2020, which reopened shortly thereafter. Regulations intended to reduce the risk of introducing infectious diseases in the blood supply (including COVID-19) could also result in a decreased pool of potential donors or integrity of inventory. Due to any pandemic, epidemic or outbreak in one or more regions in which our Cell Solutions business operates, the portion of the donor pool that typically donates may be unable, or unwilling to donate, thereby significantly reducing the availability of research products upon which we rely. In addition, health and healthcare concerns among the public may result in a decline in donations. If donor participation declines, we may not be able to reduce costs sufficiently to maintain profitability of the Cell Solutions business.

Our CDMO services establish us as a premier scientific partner for cell and gene therapy development, testing, and manufacturing; enable us to provide clients with an integrated solution from basic research and discovery through cGMP production; enable us to drive efficiency and accelerate clients' speed-to-market by integrating manufacturing and the required testing; and enable our clients to seamlessly conduct analytical testing, process development, and manufacturing for advanced modalities with the same scientific partner.

Furthermore, our CDMO operations will require various raw materials supplied primarily by third parties. We or our customers will specify the raw materials and other items required to manufacture the applicable product and, in some cases, the customers will specify the suppliers from whom we must purchase these raw materials. In certain instances, the raw materials and other items may only be supplied by a limited number of suppliers or in limited quantities. If third-party suppliers do not supply raw materials or other items on a timely basis, it may cause a manufacturing run to be delayed or canceled which could materially adversely affect our results of operations and financial condition.

Furthermore, third-party suppliers may fail to provide us with raw materials and other items that meet the qualifications and specifications required by us or our customers. If third-party suppliers are not able to provide us with raw materials that meet our or our customers' specifications on a timely basis, we may be unable to manufacture the product for our clients or it could prevent us from delivering products to our customers within required time frames. Any such delay in delivering products to our clients may create liability for us to our customers for breach of contract or cause us to experience order cancellations and loss of customers. In the event that we manufacture products with components or raw materials that do not meet our qualifications and specifications or those of our customers or governmental or regulatory authorities, we may become subject to product liability claims caused by defective raw materials or components from a third-party supplier or from a customer.

A reduction in demand may adversely affect our business.

Our business could be adversely affected by any significant decrease in drug R&D 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 (including the COVID-19 pandemic and the impact of measures intended to reduce the spread of COVID-19) also affect their R&D budgets and, consequentially, our business as well.

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 R&D (and in particular discovery and safety assessment) and to outsource the products and services we provide. Furthermore, our clients (particularly larger biopharmaceutical companies) continue to search for ways to maximize the return on their investments with a focus on lowering R&D costs per drug candidate. Fluctuations in the expenditure amounts in each phase of the R&D budgets of these researchers and their organizations could have a significant effect on the demand for our products and services. R&D 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, institutional budgetary policies and the impact of government regulations, including potential drug pricing legislation. 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. For additional discussion of the factors that we believe have recently been influencing R&D 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.

Further, our Cell Solutions operations are structured to produce research materials, such as blood products based on customers' existing demand, and perceived potential changes in demand, for these products. Sudden or unexpected changes in demand for these products could have an adverse impact on our profitability. Increasing demand could harm relationships with customers if we are unable to alter production capacity, or purchase products from other suppliers, to fill orders adequately. This could result in a decrease in overall revenue and profits. Lack of access to sufficient capital, or lack of adequate time to properly (or the failure to adequately) respond to changes in demand, could result in declining revenue and profits, as customers transfer to other suppliers.

Furthermore, we have significant business which materially depends upon the regulatory approval of the products it manufactures for its contract development and manufacturing organization (CDMO) clients. As such, if these clients experience a delay in, or failure to receive, approval for any of their product candidates or fail to maintain regulatory approval of their products that we develop or manufacture, our revenue and profitability could be materially adversely affected. Additionally, if the FDA or a comparable foreign regulatory authority does not approve of our facilities for the manufacture of a customer product, observes significant deficiencies or violations at its facilities or withdraws such approval in the future, our customers may choose to identify alternative manufacturing facilities and/or relationships, which could significantly impact our CDMO capacity and capabilities and results of operations therefrom.

A reduction or delay in government funding of R&D 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. We also sell directly to the NIH and these other agencies. Government funding of R&D 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, included reduced allocations to government agencies that fund R&D activities. Government proposals to reduce or eliminate budgetary deficits have sometimes included reduced allocations to the NIH and other government agencies that fund R&D activities, or NIH funding may not be directed towards projects and studies that require the use of our products and services, both of which could adversely affect our business and our financial results.

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 strictly regulate the drug development process. Our business involves helping our customers navigate these regulatory processes. 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.

For example, in December 2022, the FDA Modernization Act 2.0 was passed, which requires the FDA to develop and implement a strategy to reduce the use of animals in testing while maintaining the safety and effectiveness of medical products and to explore the use of non-animal alternatives to animal testing. Eliminating the use of animals in research may have material adverse effects on our business, results of operations, or financial condition. While there have been significant advancements in the development of alternative methods, the complete elimination of animals in research will be a gradual process that may take many years to achieve. The use of animals in research is highly regulated and proposed changes to current regulations will need to be carefully evaluated to ensure that they do not compromise the safety and efficacy of new drugs and medical treatments.

Although we believe we are currently in compliance in all material respects with applicable national, regional and local laws, as well as other accepted guidance used by oversight bodies (including the USDA, the standards set by the International Air Transport Association, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, USFWS, 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 the jurisdictions in which we operate), failure to comply could subject us to denial of the right to conduct business, fines, criminal penalties and other enforcement actions. For additional discussion of the factors specifically affecting our non-human primates including related oversight trade compliance agencies, please see the sections entitled “Item 1A. Risk Factors – Industry Risk Factors - Several of our product and service offerings, including our non-human primate supply, are dependent on a limited source of supply that, when interrupted, adversely affects our business”, and “Item 3. Legal Proceedings” included elsewhere in this Form 10-K. In addition, if regulatory authorities were to mandate a significant reduction in safety assessment procedures that utilize research animals (as has been advocated by certain groups), certain segments of our business could be materially adversely affected.

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 R&D 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 R&D.

While it is not possible to predict whether and when any such changes will occur, changes at the local, state or federal level, or in laws and regulations in effect in foreign jurisdictions in which we operate or have business relationships, may significantly impact our domestic and foreign businesses and/or those of our clients. Furthermore, modifications to international trade policy, public company reporting requirements, environmental regulation and antitrust enforcement may have a materially adverse impact on us, our suppliers or our clients.

Our Biologics Solutions business, financial condition and results of operations may be adversely affected if the products we manufacture for our customers do not gain market acceptance.

If the products we manufacture for our customers do not gain market acceptance or production volumes of key products that we manufacture for our customers decline, the financial condition and results of our operations may be adversely affected. For our

CDMO business, we will depend on, and have no control over, market acceptance for the products that we will manufacture for our customers. Consumer demand for these products could be adversely affected by, among other things, delays in securing regulatory approvals, the emergence of competing or alternative products, including generic drugs, the emergence of new safety data for such products, the loss of patent and other intellectual property rights protection, reductions in private and government payment product subsidies or changing product marketing strategies.

CDMO services are highly complex and failure to provide quality and timely services to our CDMO customers, could adversely impact our business.

The CDMO services we offer can be highly complex, due in part to strict regulatory requirements and the inherent complexity of the services provided. A failure of our quality control systems in our facilities could cause problems in connection with facility operations for a variety of reasons, including equipment malfunction, viral contamination, failure to follow specific manufacturing instructions, protocols and standard operating procedures, problems with raw materials or environmental factors. Such issues could affect production of a single manufacturing run or manufacturing campaigns, requiring the destruction of products, or could halt manufacturing operations altogether. In addition, any failure to meet required quality standards may result in our failure to timely deliver products to our customers which, in turn, could damage our reputation for quality and service. Any such incident could, among other things, lead to increased costs, lost revenue, reimbursement to customers for lost drug substances, damage to and possibly termination of customer relationships, time and expense spent investigating and remediating the cause and, depending on the cause, similar losses with respect to other manufacturing runs. In addition, such issues could subject us to litigation, the cost of which could be significant.

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 must be free of certain infectious agents, such as certain viruses, parasites, and bacteria, because the presence of these contaminants can distort or compromise the quality of research results and/or 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 as well as our animal services businesses, including GEMS, harm our reputation for contaminant-free production and result in decreased sales. 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 and liability for damages to infected persons.

We are also subject to similar contamination risks with respect to our large research models. While some of these models are owned by us and maintained at our facilities, others are reserved for us and maintained at sites 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, the third party may refuse to fulfill its indemnification obligation or may be unable to as a result of insolvency or other impediments.

Contaminations are unanticipated and difficult to predict and could adversely impact our financial results. 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 contaminations also exists and may require us to restart the applicable colonies, and would 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.

Further, many of our operations are comprised of complex mechanical systems that 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.

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 influenced outsourcing demand from our clients, please see the section entitled “Our Strategy” above.

The industries in which we operate are highly competitive.

The industries in which we operate are highly competitive. We compete for business with other non-clinical drug development partners and blood product and therapeutic services companies, other CDMOs, as well as 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, spend and flexibility;
- technological and scientific 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, which are targets for each other and for large pharmaceutical companies. If this trend continues, it is likely to produce more competition among the larger companies, with respect to both clients and acquisition candidates. In addition, small, specialized entities considering entering the 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. Our competition in the CDMO market includes full-service contract manufacturers and large pharmaceutical companies offering third-party manufacturing services to fill their excess capacity. Also, large pharmaceutical companies have been seeking to divest portions of their manufacturing capacity, and any such divested businesses may compete with us in the future. Furthermore, many of our CDMO competitors may have substantially greater financial, marketing, technical or other resources than we do. Moreover, additional competition may emerge, particularly in lower-cost jurisdictions such as India and China, which could, among other things, result in a decrease in the fees paid for our services, which may adversely affect our results of operations and financial condition.

More generally, our 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.

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

The scientific community continues to develop cell-based and nonanimal model methods designed to increase the translation from findings in early-stage discovery and pre-clinical studies to human studies, and vice-versa. As these methods continue to advance, they may supplement, and in some cases possibly replace or supplant methodologies that are currently in use, such as the use of traditional living animals in biomedical research. In addition, technological improvements, such as imaging and other translational biomarker technologies, could impact demand for animal research models. Further, some companies are developing recombinantly produced versions of LAL, which has been historically derived from live animals. It is our strategy to explore new technologies to refine and potentially reduce the use of animal models and animal derived products as new *in vitro* and *in silico* methods become available and synthetically-manufactured products become validated with sufficient data to ensure public safety. However, we may not be able to develop new products, inputs or processes effectively or in a timely manner to replace any lost sales. Lastly, other companies or entities may develop research models, inputs or processes with characteristics different from those that we produce, and that may be viewed as more desirable by some of our clients.

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

We continue to seek opportunities to develop and market new services and products that complement or expand our existing business or service offerings. We believe our ability to innovate through internal research and development efforts and license new technologies from third parties are both critical to our ability to continue to meet the needs of our clients. Our ability to gain access to such technologies depends, in part, on our ability to convince innovators that we can successfully develop and commercialize their inventions. We cannot guarantee that we will be able to identify new technologies of interest to our clients. Even if we are able to identify these opportunities, negotiating license agreements on commercially acceptable terms may prove difficult. In addition, our ongoing internal research and development efforts may not always yield offerings that meet client demand. 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.

Costs increasing more rapidly than market prices in certain of our businesses could reduce profitability.

The cost of collecting, processing and testing products has risen significantly in recent years and will likely continue to increase given stringency of demands on raw materials for advanced cell products. These cost increases are related to new and improved testing procedures, increased regulatory requirements, and higher staff and supply costs. Competition and fixed price contracts may limit our ability to maintain existing operating margins. Some competitors have greater resources than us to sustain periods of marginally profitable or unprofitable sales. Costs increasing more rapidly than market prices may reduce profitability and may have a material adverse impact on our business and results of operations.

Legal and Regulatory Risk Factors

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 on behalf of our clients 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 letter from the FDA based on a finding of a material violation affecting data integrity by us for GLP or cGMP requirements that are not addressed to the regulatory monitoring authorities' satisfaction 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 or the temporary closure of our facilities. Any action against us for violation of these laws or regulations, 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.

Where applicable, our clients expect us to timely deliver their nonclinical data compliant with the FDA's SEND (Standardization for Exchange of Nonclinical Data) standards. 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 research 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.

Our Cell Solutions business is subject to extensive and complex regulation by federal, state and local governments in the U.S. and in the other countries in which it operates. This business requires us to obtain many licenses, permits, authorizations, accreditations, approvals, and certificates to fully comply with appropriate regulations in every jurisdiction in which we operate and sell. Federal, state and local regulations do change, requiring prompt adoption to remain in a constant state of compliance. Changes in the regulations could require us to alter how we operate our business, potentially resulting in a significantly increased cost of compliance.

Our donor collection centers are registered with the FDA and the FDA periodically conducts inspections of those facilities and operations. At the conclusion of each inspection, the FDA provides us with a list of objectionable conditions and practices observed during the inspection that could result in additional enforcement actions. Failure to comply with the regulations enforced by the FDA could result in sanctions and/or remedies and have a material adverse effect on us.

We are required to comply with stringent, complex and evolving laws, rules, regulations and standards in many jurisdictions, as well as contractual obligations, relating to data privacy and security. Any actual or perceived failure to comply with these requirements could have a material adverse effect on our business.

We are required to comply with stringent, complex and frequently evolving laws, rules, regulations and standards in many jurisdictions, as well as contractual obligations, relating to data privacy and security. Ensuring that our collection, use, transfer, storage and other processing of personal information complies with such requirements can increase operating costs, impact the development of new products or services, and reduce operational efficiency.

Internationally, virtually every jurisdiction in which we operate has established its own data privacy and security legal framework with which we must comply. For example, we are required to comply with the European Union (EU) General Data Protection Regulation (GDPR), which became effective on May 25, 2018. The EU GDPR imposes stringent obligations regarding the collection, control, use, sharing, disclosure and other processing of personal data of individuals within the EU and European Economic Area (EEA). EU member states may also impose additional requirements in relation to personal data through their national implementing legislation.

The EU GDPR also imposes specific restrictions on the transfer of personal data to countries outside of the EU and EEA, including the use of appropriate safeguards to enable such transfers, such as Standard Contractual Clauses (SCC). While we have taken steps to mitigate the impact on us, such as implementing SCCs, the efficacy and longevity of these mechanisms remains uncertain. In 2022, the EU Commission and the U.S. announced that they have agreed in principle on a new Trans-Atlantic Data Privacy Framework. While there remains some uncertainty regarding this framework, it is expected to enter into force in 2023. If we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations, and could adversely affect our financial results. While we have implemented new controls and procedures to comply with the requirements of the EU GDPR, such procedures and controls may not be effective in ensuring compliance or preventing unauthorized transfers of personal data. Additionally, we are subject to the privacy and data protection laws of the UK, including the UK Data Protection Act of 2018 (UK GDPR). Similar to the EU GDPR, the UK GDPR imposes restrictions on the processing of personal data, as well as transfers of personal data from the UK to other countries. On March 25, 2022, the UK adopted a new International Data Transfer Agreement (IDTA) and international data transfer addendum to the EU SCCs for international data transfers (Addendum). Failure to comply with the EU and/or the UK GDPR can result in significant fines and other liability.

Moreover, on August 20, 2021, China adopted the Personal Information Protection Law (PIPL), which went into effect on November 1, 2021 and established new national privacy requirements relating to the collection, processing, transfer and security of personal information in or from China. Given the newness of the PIPL, substantial uncertainty exists with respect to its application and enforcement. In the event that the PIPL requires us to store data in China, or limits our ability to transfer data across borders, we may experience increased costs and business inefficiencies. Fines, corrective actions, or other penalties asserted due to alleged noncompliance may impose additional financial or operational costs, limit our ability to attract and retain local talent, or limit our ability to do business in China.

In the United States, there are numerous federal and state data privacy and security laws, rules, and regulations governing the collection, use, disclosure, retention, security, transfer, storage and other processing of personal information, including federal and state data privacy laws, data breach notification laws, and data disposal laws. For example, at the federal level, we are subject the regulations of the Federal Trade Commission, which has the authority to regulate and enforce against unfair or deceptive acts or practices in or affecting commerce, including acts and practices with respect to data privacy and security. If our public statements about our use, collection, disclosure and other processing of personal information are alleged to be deceptive, unfair or misrepresentative of our actual practices, we may be subject to potential government or legal investigation or action. If we are found to have violated applicable laws or regulations, we may also be subject to penalties, fines, damages, injunctions or other outcomes that may adversely affect our operations and financial results. The United States Congress also

has considered, and may in the future consider, various proposals from time to time for comprehensive federal data privacy legislation to which we may become subject if passed and which may adversely affect our operations and financial results.

At the state level, we are subject to laws and regulations like the California Consumer Privacy Act (CCPA) and the California Privacy Rights Act (CPRA). The CCPA creates transparency requirements for companies and grants California residents various new rights with regard to their personal information and the CPRA imposes additional data protection obligations on companies doing business in California. Failure to comply with the CCPA may result in, among other things, significant civil penalties and injunctive relief, or potential statutory or actual damages. The CCPA also provides private right of action for data breaches that result in the loss of personal information, which is expected to increase data breach litigation. The CPRA may impact our business activities and require compliance costs that adversely affect business, operating results, prospects and financial condition. These state statutes, and other similar state or federal laws that may be enacted in the future may require us to modify our data processing practices and policies, incur substantial compliance-related costs and expenses, and otherwise suffer adverse impacts on our business.

Additionally, while collecting research products from donors, we may collect, use, disclose, maintain and transmit donor information in ways that will be subject to many of the numerous state, federal and international laws and regulations governing the collection, use, disclosure, storage, transmission or confidentiality of patient-identifiable health information.

We have made changes to, and investments in, our business practices and will continue to monitor developments and make appropriate changes to help attain compliance with these evolving and complex laws, rules, regulations and standards. Any actual or perceived failure to comply with any such laws, rules, regulations, standards or contractual obligations could subject us to denial of the right to conduct business, significant fines, civil or criminal penalties, costly litigation (including class actions), government investigation or inquiries, enforcement actions, claims, proceedings, judgements, awards, penalties, sanctions or other adverse impacts that could have a material adverse effect on our business.

Failure to comply with U.S., state, local or international environmental, health and safety laws and regulations, including regulations issued by the Occupational Safety and Health Administration, Environmental Protection Agency, Nuclear Regulatory Agency and Department of Transportation, could result in fines and penalties and loss of licensure, and have a material adverse effect upon the Company's business.

We are subject to licensing and regulation under laws and regulations relating to the protection of the environment and human health and safety, including laws and regulations relating to the handling, transportation and disposal of medical specimens, infectious and hazardous waste and radioactive materials, as well as regulations relating to the safety and health of laboratory employees and protecting employees from the spread of COVID-19. Failure to comply with these laws and regulations could subject us to denial of the right to conduct business, fines, criminal penalties and/or other enforcement actions that could have a material adverse effect on our business. Other environmental laws may have similar consequences to us or our supplier, or result in liability to us. In addition, compliance with future legislation could impose additional requirements on us that may be costly.

Changes in U.S. and International Tax Law or material changes in our stock price could have a material adverse impact on our effective tax rate.

As a global company, we are subject to taxation in numerous countries, states, and other jurisdictions. Changes to governmental laws and regulations, or their interpretations, including potential adoption of global minimum taxation requirements and potential changes to existing tax law by the current U.S. Presidential administration and Congress, could impact our profits, effective tax rate and cash flows.

We receive substantial tax credits and incentives in Canada, from both the Canadian federal and Quebec governments, China, France, the U.K., and the U.S. Any reduction in the availability or amount of these tax credits and incentives 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.

Further, we generally receive a tax deduction upon the exercise of non-qualified stock options by employees, or the vesting of restricted stock and performance share units held by employees. The stock price, timing and amount of the vesting and exercising of share-based compensation could adversely impact our effective tax rate.

Non-clinical contract research services create a risk of liability.

As a global drug development partner, we face a range of potential liabilities, which may include:

- risks associated with 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 for the quarantine and handling of imported animals;
- 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 Solutions business, which could result in us or our clients failing to identify unsafe or contaminated materials;
- risk of transmitting dangerous infectious diseases, as a result of the failure of our screening and testing processes, or new pathogens that may be undetected by such processes; and
- the acquisitions of Cognate and Vigene in 2021 have expanded our business into the CDMO market, which entails additional risks of liability, including potential product liability claims, errors and omissions claims in connection with our services and potential liability under indemnification agreements between us and our officers and directors.

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 Cell Solutions, DSA, and Manufacturing businesses, we attempt to reduce these risks through the negotiation of contractual risk transfer provisions, such as indemnification provisions, limitations of liability, and client insurance requirements.

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, either we or a party required to indemnify us may not be able to maintain such insurance coverage (either at all or on terms acceptable to us).

The failure to successfully obtain, maintain and enforce intellectual property rights and defend against assertions of third-parties to intellectual property rights could adversely affect us.

Many of our services, products and processes rely on intellectual property. In some cases, that intellectual property is owned by another party and licensed to us, sometimes exclusively. To protect our intellectual property rights, we primarily rely upon trade secret, patent, and copyright law, as well as contractual provisions relating to intellectual property ownership and control and confidentiality. Laws relating to intellectual property rights and contracts vary from country to country and are subject to change at any time. In addition, the agreements upon which we rely to protect our intellectual property might be breached, or might not be fully enforceable. Our intellectual property rights might not prevent our competitors from independently developing intellectual property that is similar to or duplicative of ours. Also, enforcement of our intellectual property rights may also require substantial investments of time, money, and oversight, and may not result in success. If we are unable to secure and maintain our intellectual property rights, or if we are unable to prevent misappropriation or infringement, our business could be adversely affected.

Furthermore, we respect third-party intellectual property rights, and make efforts to avoid violating valid and enforceable intellectual property rights, and seek to procure and pay for licenses from the holders of intellectual property rights that we seek to use. In some cases, we are asked to utilize components and processes that are provided to us by our clients.

Customers of our CDMO business, for example, may utilize intellectual property for the production of their products, the manufacture of which has been contracted to us. Failure by us and/or our customers to secure and maintain rights to third-party intellectual property rights could have a material adverse effect, including reduced revenue as a result in a delay or cancellation of the manufacture of products and involvement in judicial and administrative proceedings in which we are named as a party.

Further, the drug discovery, drug development, and drug manufacturing industry has a history of patent and other intellectual property litigation and these lawsuits will likely continue. Litigation can be expensive, time consuming, and can divert management's attention from other business concerns. If we do not prevail in an infringement lawsuit brought against us, we

may be compelled by a court to pay substantial damages, including treble damages, and be ordered to stop the challenged activity, or obtain a license on unnegotiated and/or unfavorable terms.

Our by-laws designate the state courts located in the State of Delaware as the sole and exclusive forum for certain actions, including derivative actions, which could limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with the Company and its directors, officers, other employees, or the Company's stockholders and may discourage lawsuits with respect to such claims.

Unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of the Company, (2) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or the Company's stockholders, (3) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or the Company's certificate of incorporation or the Company's by-laws (in each case, as they may be amended from time to time), or (4) any action asserting a claim governed by the internal affairs doctrine shall be a state court located within the state of Delaware (or, if no state court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware). However, this exclusive forum provision will not apply to suits brought under the federal securities laws for which the federal courts have exclusive jurisdiction. If a court were to find the choice of forum provision contained in our by-laws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business and financial condition. Furthermore, although we believe the exclusive forum provision benefits us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, this provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with the Company and its directors, officers, or other employees and may discourage lawsuits with respect to such claims.

Labor and Employment Risk Factors

We depend on key personnel and may not be able to retain these employees, which could 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 and President since 1992 and Chairman since 2000, has held various positions with us for four decades. While we entered into an amended employment agreement with Mr. Foster in 2021, most members of our senior management do not have employment agreements except in jurisdictions outside of the United States where employment contracts are common for most employees. If Mr. Foster or other members of senior management do not continue in their present positions, our business may be adversely impacted.

If we are unable to attract, hire or retain key team members or a highly skilled and diverse global workforce, it could have a negative impact on our business, financial condition or results of operations.

Because of the specialized scientific nature of our business, we are highly dependent upon attracting and retaining qualified scientific, technical and managerial personnel. We have a strong record of employee retention, and we strive to reduce the impact of the potential loss of existing employees by having an established organizational talent review process that identifies successors and potential talent needs. However, there is still significant competition for qualified personnel in the veterinary, pharmaceutical and biotechnology fields. Failure to retain qualified existing personnel and recruit additional key scientific, technical, and managerial personnel in a timely manner, could harm our business.

We depend on the availability of, and good relations with, our team members.

Our employees are not unionized in the U.S. and employees at some of our European facilities are represented by works councils, collective bargaining agreements, employee representative groups and/or unions, which is consistent with local customs for our industry. Our operations depend on the availability and relative costs of labor and maintaining good relations with employees. If we fail to maintain good relations with our team members or with the labor organizations, we may experience labor strikes or work stoppages, which could adversely affect our financial results.

Financial and Accounting Risk Factors

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

As of December 31, 2022, we had \$2.7 billion of debt and finance leases (debt). 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; making us more vulnerable to rising interest rates, and reducing our flexibility to respond to changing business and economic conditions. For additional information regarding our debt, please see Note 9, "Long-Term Debt and Finance Lease Obligations", included in the notes to our consolidated financial statements included elsewhere in this Form 10-K.

The interest rate on our credit facility (Credit Facility), which matures in fiscal year 2026, is linked to LIBOR (expected to be transitioned to Secured Overnight Financing Rate (SOFR) on June 30, 2023) for USD denominated borrowings, EURIBOR for EUR denominated borrowings and SONIA for GBP denominated borrowings. As of December 31, 2022, amounts outstanding on our Credit Facility were \$1.2 billion on our revolving credit facility, for which there is an aggregate available borrowing capacity of \$3.0 billion. Disruption in the financial market could also have a material adverse effect on our financial position, results of operations and liquidity. In 2017, the Financial Conduct Authority (FCA) in the U.K. announced that it would phase out LIBOR as a benchmark and it is currently anticipated that LIBOR will be completely phased out by June 30, 2023. LIBOR will be replaced with SOFR aligned with provisions already outlined in the company's Credit Facility. There will be an adjustment to CRL's interest rate spread to account for the delta between the LIBOR and SOFR rates. If LIBOR ceases to exist, the method and rate used to calculate our interest rates and/or payments on our debt in the future may result in interest rates and/or payments that are higher than, or that do not otherwise correlate over time with, the interest rates and/or payments that would have been applicable to our obligations if LIBOR was available in its current form, which could have a material adverse effect on our financial position, results of operations and liquidity. While we continue to take steps to mitigate the impact of the phase-out or replacement of LIBOR, further efforts taken to mitigate the impact of the LIBOR phase-out or replacement of LIBOR may not prove successful. In addition, the overall financial market may be disrupted as a result of the phase-out or replacement of LIBOR. Disruption in the financial market could also have a material adverse effect on our financial position, results of operations and liquidity.

Impairment of long lived tangible assets and intangible assets (such as goodwill and 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. 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, as well as long-lived tangible assets, such as property, plant and equipment and operating lease right-of-use assets. Should disruption in the global financial markets and deterioration of economic conditions have a prolonged impact on our industry, triggering events may arise resulting in long-lived tangible asset, intangible asset, or goodwill impairments. To the extent long-lived tangible assets, intangible assets, or goodwill are impaired, their carrying value will be written down to their implied fair values and a charge will be made to our net income. Such an impairment charge could materially and adversely affect our operating results. As of December 31, 2022, the carrying amount of goodwill and other intangibles on our consolidated balance sheet was \$3.8 billion, property, plant and equipment was \$1.5 billion, and operating lease right-of-use assets was \$391.8 million.

General Risk Factors

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.

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 the risks discussed above, as well as: changes in the general global economy; changes in the mix of our products and services; cyclical buying patterns of our clients; the financial performance of our strategic and venture capital investments; certain acquisition-related adjustments, including change in fair value of contingent payments both receivable from or payable to counterparties; and the occasional extra week ("53rd week") that we recognize in a fiscal year (and fourth fiscal quarter thereof), including 2022, due to our fiscal year ending on the last Saturday in December. 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.

Increasing focus on environmental, social and governance (ESG) matters may impact our business, financial results or stock price.

There has been increasing public focus by investors, customers, environmental activists, the media and governmental and nongovernmental organizations on a variety of ESG matters. If we are not effective in addressing ESG matters affecting our business, or setting and meeting relevant sustainability goals, our reputation and financial results may suffer. We may experience increased costs in order to execute upon our sustainability goals and measure achievement of those goals, which could have an adverse impact on our business and financial condition. Heightened stakeholder focus on ESG matters related to our business requires the continuous monitoring of various and evolving laws, regulations, standards and expectations and the associated reporting requirements. A failure to adequately meet stakeholder expectations may result in noncompliance, the loss of business, reputational impacts, diluted market valuation, an inability to attract customers and an inability to attract and retain top talent. A failure to comply with new laws, regulations, or reporting requirements, could negatively impact our reputation and our business. In addition, our adoption of certain standards or mandated compliance to certain requirements could necessitate additional investments that could impact our profitability.

Item 1B. Unresolved Staff Comments

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

Item 2. Properties

Approximately 2/3rds of our real estate portfolio (by area) is owned including all facilities over 225,000 square feet. The remaining facilities are owned or covered by either land or facility leases. Within the DSA business, we own or lease large facilities (greater than 50,000 square feet) in 9 countries including the U.S., Canada, Scotland, France, China, and Netherlands. We own large RMS facilities in Canada, France, England and the U.S with additional large facilities leased in China and the U.S. Manufacturing is supported in over 10 countries with large, owned properties in the U.S., Ireland, and China which are supplemented by additional leased facilities in the U.S., England, and France. 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 satisfactory terms. In each of our reportable segments, we believe that our facilities are adequate for our operations and that suitable additional space will be available when needed. For additional information, see Note 14. Leases included in Item 8, "Financial Statements and Supplementary Data" in this Form 10-K.

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 contingency plans for expansion, which average between nine and twenty-four months to complete.

Specific sites may be expanded to accommodate the business requirements resulting from a targeted consolidation plan. We continue to employ a master site planning strategy to proactively evaluate our real estate needs. Sites and leases added to the portfolio by way of acquisition are integrated into our overall real estate strategy. 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. In certain circumstances, we dispose of or consolidate operations, which could result in impairment charges.

Item 3. Legal Proceedings

On February 16, 2023, the Company was informed by the U.S. Department of Justice (DOJ) that in conjunction with the U.S. Fish and Wildlife Service (USFWS), it had commenced an investigation into the Company's conduct regarding several shipments of non-human primates from Cambodia. On February 17, 2023 the Company received a grand jury subpoena requesting certain documents related to such investigation. The Company is aware of a parallel civil investigation being undertaken by the DOJ and USFWS. The Company is cooperating with the DOJ and the USFWS and believes that the concerns raised with respect to the Company's conduct are without merit. The Company maintains a global supplier onboarding and oversight program incorporating risk-based due diligence, auditing, and monitoring practices to help ensure the quality of our supplier relationships and compliance with applicable U.S. and international laws and regulations, and has operated under the belief that all shipments of non-human primates it received satisfied the material requirements, documentation and related processes and procedures of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) documentation and related processes and procedures, which guides the release of each import by USFWS. Notwithstanding our efforts and good-faith belief, in connection with the civil investigation, the Company has voluntarily suspended future shipments of non-human primates from Cambodia until such time that the Company and USFWS can agree upon and implement additional procedures to reasonably ensure that non-human primates imported to the United States from Cambodia are purpose-bred. While these discussions with USFWS are ongoing, the Company has also agreed to continue to care for the Cambodia-sourced non-human primates from certain recent shipments that are now in the United States. We are not able to predict what action, if any, might be taken in the future by the DOJ, USFWS or other governmental authorities as a result of the investigations. Neither the DOJ nor USFWS has provided the Company with any specific timeline or indication as to when

these investigations or discussions regarding future processes and procedures will be concluded or resolved. Because it is in the early stages, the Company cannot predict the timing, outcome or possible impact of the investigations, including without limitation any potential fines, penalties or liabilities.

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.” There were no equity securities that were not registered under the Securities Act of 1933, as amended, sold during fiscal year 2022.

Shareholders

As of January 25, 2023, there were 75 registered shareholders of the outstanding shares of common stock.

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 2022:

	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 (in thousands)
September 25, 2022 to October 22, 2022	101	\$ 196.80	—	\$ 129,105
October 23, 2022 to November 19, 2022	58	207.63	—	129,105
November 20, 2022 to December 31, 2022	518	228.13	—	129,105
Total	<u>677</u>		<u>—</u>	

Our Board of Directors has authorized, in aggregate, a stock repurchase program of \$1.3 billion. During the fourth quarter of fiscal year 2022, we did not repurchase any shares of common stock under our stock repurchase program or in open market trading. As of December 31, 2022, we had \$129.1 million remaining on the authorized stock repurchase program.

Additionally, our stock-based compensation plans permit the netting of common stock upon vesting of restricted stock, restricted stock units, and performance share units in order to satisfy individual statutory tax withholding requirements.

Comparison of 5-Year Cumulative Total Return

The following stock performance graph compares the annual percentage change in the Company’s cumulative total shareholder return on its Common Stock during a period commencing on December 30, 2017 and ending on December 31, 2022 (as measured by dividing (1) the sum of (A) the cumulative amount of dividends for the measurement period, assuming dividend reinvestment, and (B) the difference between the Company’s share price at the end and the beginning of the measurement period; by (2) the share price at the beginning of the measurement period) with the cumulative total return of the S&P 500 Index and the S&P 500 Health Care Index during such period. The Company has not paid any dividends on the Common Stock, and no dividends are included in the representation of the Company’s performance. The stock price performance on the graph below is not necessarily indicative of future price performance. The graph is not “soliciting material,” is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference in any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934 whether made before or after the date hereof and irrespective of any general incorporation language in any such filing. Information used in the graph was obtained from Standards & Poor’s Institutional Market Services, a source believed to be reliable, but the Company is not responsible for any errors or omissions in such information.

COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN
 Among Charles River Laboratories International, Inc., The S&P 500 Index and
 The S&P 500 Health Care Index



	Fiscal Year					
	2017	2018	2019	2020	2021	2022
Charles River Laboratories International, Inc.	\$ 100	\$ 102	\$ 139	\$ 230	\$ 337	\$ 199
S&P 500	100	96	126	149	192	157
S&P 500 Health Care	100	106	129	146	184	180

Item 6. Reserved

Not applicable.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion should be read in conjunction with our consolidated financial statements and related notes appearing in Item 8, “Financial Statements and Supplementary Data” in this Annual Report on Form 10-K. A discussion of our results of operations for the fiscal year ended December 25, 2021 and a comparison of our results for the fiscal years ended December 25, 2021 and December 26, 2020 was included in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” of our Annual Report on Form 10-K for the fiscal year ended December 25, 2021, filed with the SEC on February 16, 2022. In addition to historical consolidated financial information, the following discussion contains forward-looking statements. Actual results may differ significantly from those projected in the forward-looking statements. Factors that might cause future results to differ materially from those projected in the forward-looking statements include, but are not limited to, those discussed in Item 1A, “Risk Factors” and elsewhere in this Annual Report on Form 10-K. Certain percentage changes may not recalculate due to rounding.

Overview

We are a full service, leading, non-clinical global drug development partner. For over 75 years, we have been in the business of providing the research models required in the research and development of new drugs, devices, and therapies. Over this time, we have built upon our original 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, that supports our clients from target identification through non-clinical development. We also provide a suite of products and services to support our clients’ manufacturing activities, including our contract development and manufacturing organization (CDMO) business. Utilizing our broad portfolio of products and services enables our clients to create a more efficient and flexible drug development model, which reduces their costs, enhances their productivity and effectiveness, and increases speed to market.

Our client base includes major global pharmaceutical companies, many biotechnology companies; 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 around the world. We currently operate in over 150 locations and in 21 countries worldwide, which numbers exclude certain Insourcing Solutions (IS) sites.

Segment Reporting

Our three reportable segments are Research Models and Services (RMS), Discovery and Safety Assessment (DSA), and Manufacturing Solutions (Manufacturing).

Our RMS reportable segment includes the Research Models, Research Model Services, and Cell Solutions businesses. Research Models includes the commercial production and sale of small research models, as well as the supply of large research models. Research Model Services includes: Genetically Engineered Models and Services (GEMS), which performs contract breeding and other services associated with genetically engineered models; Research Animal Diagnostic Services (RADS), which provides health monitoring and diagnostics services related to research models; and Insourcing Solutions (IS), which provides colony management of our clients’ research operations (including recruitment, training, staffing, and management services) within our clients’ facilities as well as our own vivarium space, utilizing both our Charles River Accelerator and Development Lab (CRADL) and our Explora BioLabs options. Cell Solutions provides controlled, consistent, customized primary cells and blood components derived from normal and mobilized peripheral blood, bone marrow, and cord blood.

Our DSA segment is comprised of two businesses: Discovery Services and Safety Assessment. We provide regulated and non-regulated DSA services to support the research, development, and regulatory-required safety testing of potential new drugs, including therapeutic discovery and optimization plus in vitro and in vivo studies, laboratory support services, and strategic non-clinical consulting and program management to support product development.

Our Manufacturing reportable segment includes Microbial Solutions, which provides *in vitro* (non-animal) lot-release testing products, microbial detection products, and species identification services and Biologics Solutions (Biologics), which performs specialized testing of biologics (Biologics Testing Solutions) as well as contract development and manufacturing products and services (CDMO). In December of 2022, we sold the Avian Vaccine Services (Avian) business, reported in the Manufacturing segment, which supplied specific-pathogen-free chicken eggs and chickens.

U.S. Department of Justice Investigation into Non-Human Primate Supply Chain

On February 16, 2023, we were informed by the U.S. Department of Justice (DOJ) that in conjunction with the U.S. Fish and Wildlife Service (USFWS), it had commenced an investigation into our conduct regarding several shipments of non-human primates from Cambodia. On February 17, 2023 we received a grand jury subpoena requesting certain documents related to such investigation. We are aware of a parallel civil investigation being undertaken by the DOJ and USFWS. We are cooperating with the DOJ and the USFWS and believe that the concerns raised with respect to our conduct are without merit. We maintain a global supplier onboarding and oversight program incorporating risk-based due diligence, auditing, and monitoring practices to help ensure the quality of our supplier relationships and compliance with applicable U.S. and international laws and regulations, and has operated under the belief that all shipments of non-human primates we received satisfied the material requirements, documentation and related processes and procedures of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) documentation and related processes and procedures, which guides the release of each import by USFWS. Notwithstanding our efforts and good-faith belief, in connection with the civil investigation, we have voluntarily suspended future shipments of non-human primates from Cambodia until such time that we and USFWS can agree upon and implement additional procedures to reasonably ensure that non-human primates imported to the United States from Cambodia are purpose-bred. While these discussions with USFWS are ongoing, we have also agreed to continue to care for the Cambodia-sourced non-human primates from certain recent shipments that are now in the United States. The carrying value of the inventory related to these shipments is approximately \$20 million. We are not able to predict what action, if any, might be taken in the future by the DOJ, USFWS or other governmental authorities as a result of the investigations. Neither the DOJ nor USFWS has provided us with any specific timeline or indication as to when these investigations or discussions regarding future processes and procedures will be concluded or resolved. Because it is in the early stages, we cannot predict the timing, outcome or possible impact of the investigations, including without limitation any potential fines, penalties or liabilities. Refer to Item 1A, "Risk Factors" and Item 3, "Legal Proceedings" disclosed herein for our assessment of risk factors surrounding this matter.

Aside from the matter above, we believe there are no other matters pending against us that could have a material impact on our business, financial condition, or results of operations.

Russia-Ukraine Conflict

In February 2022, the Russian Federation launched an invasion of the country of Ukraine resulting in conflict in the region and a variety of sanctions against the Russian Federation enacted by several governments, including the U.S, United Kingdom, Canada and European Union. The conflict has had and continues to have, direct and indirect adverse effects on financial markets and global supply chain disruptions. We do not have any direct operations in either Russia or Ukraine and there were no material impacts to our financial statements during fiscal year 2022 as a result of the situation. We will continue to monitor the situation as it evolves for potential impacts to our operating and financial results such as increased inflation, supply chain, or cybersecurity risks in subsequent periods. Refer to Item 1A, "Risk Factors" disclosed herein for our assessment of risk factors surrounding inflationary, supply chain and cybersecurity risks.

Recent Acquisitions

Our strategy is to augment internal growth of existing businesses with complementary acquisitions. We continue to make strategic acquisitions designed to expand our portfolio of products and services to support the drug discovery and development continuum. Our recent acquisitions are described below.

Fiscal Year 2023 Acquisition

On January 30, 2023, we acquired SAMDI Tech, Inc., (SAMDI), a leading provider of high-quality, label-free high-throughput screening (HTS) solutions for drug discovery research. The acquisition of SAMDI will provide clients with seamless access to the premier, label-free HTS MS platform and create a comprehensive, library of drug discovery solutions. The preliminary purchase price of SAMDI was \$60 million, inclusive of a 20% strategic equity interest previously owned by us. The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business will be reported as part of our DSA reportable segment.

Fiscal Year 2022 Acquisition

On April 5, 2022, we acquired Explora BioLabs Holdings, Inc. (Explora BioLabs), a provider of contract vivarium research services, providing biopharmaceutical clients with turnkey *in vivo* vivarium facilities, management and related services to efficiently conduct their early-stage research activities. The acquisition of Explora BioLabs complements our existing Insourcing Solutions business, specifically our CRADL™ footprint, and offers incremental opportunities to partner with an emerging client base, many of which are engaged in cell and gene therapy development. The purchase price of Explora BioLabs was \$284.5 million, net of \$6.6 million in cash. The acquisition was funded through proceeds from our Credit Facility. This business is reported as part of our RMS reportable segment.

Fiscal Year 2021 Acquisitions

On June 28, 2021, we acquired Vigene Biosciences, Inc. (Vigene), a gene therapy CDMO, providing viral vector-based gene delivery solutions. The acquisition enables clients to seamlessly conduct analytical testing, process development, and manufacturing for advanced modalities with the same scientific partner. The purchase price of Vigene was \$323.9 million, net of \$2.7 million in cash, and includes \$34.5 million of contingent consideration (maximum contingent payments of up to \$57.5 million based on future performance). The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business is reported as part of our Manufacturing reportable segment. As of December 31, 2022, the fair value of the contingent consideration was zero as certain financial targets have not and are not expected to be achieved.

On March 30, 2021, we acquired Retrogenix Limited (Retrogenix), an outsourced discovery services provider specializing in bioanalytical services utilizing its proprietary cell microarray technology. The acquisition of Retrogenix enhances our scientific expertise with additional large molecule and cell therapy discovery capabilities. The purchase price of Retrogenix was \$53.9 million, net of \$8.5 million in cash. Included in the purchase price are additional payments up to \$6.9 million, which are contingent on future performance. The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business is reported as part of our DSA reportable segment.

On March 29, 2021, we acquired Cognate BioServices, Inc. (Cognate), a cell and gene therapy CDMO offering comprehensive manufacturing solutions for cell therapies, as well as for the production of plasmid DNA and other inputs in the CDMO value chain. The acquisition of Cognate establishes us as a scientific partner for cell and gene therapy development, testing, and manufacturing, providing clients with an integrated solution from basic research and discovery through cGMP production. The purchase price of Cognate was \$877.9 million, net of \$70.5 million in cash, and includes \$15.7 million of consideration for an approximate 2% ownership interest not initially acquired, but redeemed in April 2022 with the ultimate payout tied to performance in 2021. The acquisition was funded through a combination of available cash and proceeds from our Credit Facility and Senior Notes issued in fiscal 2021. This business is reported as part of our Manufacturing reportable segment.

On March 3, 2021, we acquired certain assets from a distributor that supports our DSA reportable segment. The purchase price was \$35.4 million, which includes \$19.5 million in cash paid (\$5.5 million of which was paid in fiscal 2020), and \$15.9 million of contingent consideration (the maximum contingent contractual payments are up to \$17.5 million). The business is reported as part of our DSA reportable segment. As of December 31, 2022, the fair value of the contingent consideration was zero as certain operational targets were not achieved.

On December 31, 2020, we acquired Distributed Bio, Inc. (Distributed Bio), a next-generation antibody discovery company with technologies specializing in enhancing the probability of success for delivering high-quality, readily formattable antibody fragments to support antibody and cell and gene therapy candidates to biopharmaceutical clients. The acquisition of Distributed Bio expands our capabilities with an innovative, large-molecule discovery platform, and creates an integrated, end-to-end platform for therapeutic antibody and cell and gene therapy discovery and development. The purchase price of Distributed Bio was \$97.0 million, net of \$0.8 million in cash. The total consideration includes \$80.8 million cash paid, settlement of \$3.0 million in convertible promissory notes previously issued by us during prior fiscal years, and \$14.1 million of contingent consideration (the maximum contingent contractual payments are up to \$21.0 million). The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business is reported as part of our DSA reportable segment. During fiscal year 2022, \$7.0 million of contingent consideration was paid as certain operational milestones were achieved. Other financial targets associated with the contingent consideration were not met and the fair value of the remaining contingent consideration is zero as of December 31, 2022.

Recent Divestitures

We routinely evaluate strategic fit and fundamental performance of our global infrastructure and divest operations that do not meet key business criteria. As part of this assessment, we determined that this capital could be better deployed in other long-term growth opportunities.

On December 20, 2022, we completed the sale of our Avian Vaccine Services (Avian) business to a private investor group for a preliminary purchase price of \$169 million in cash, subject to certain customary closing adjustments, and future contingent payments up to an additional \$30 million. This business was reported in our Manufacturing reportable segment.

On October 12, 2021, we completed two separate divestitures. We sold our RMS Japan operations to The Jackson Laboratory for a purchase price of \$70.9 million, which included \$7.9 million in cash, \$3.8 million pension over funding, and certain post-closing adjustments. We also sold our gene therapy CDMO site in Sweden to a private investor group for a purchase price of \$59.6 million, net of \$0.2 million in cash and certain post-closing adjustments. Included in the purchase price are contingent payments fair valued at \$15.3 million, (the maximum contingent contractual payments are up to \$25.0 million based on future performance), as well as a purchase obligation of approximately \$10 million between the parties. As of December 31, 2022, the fair value of the contingent payments was reduced to \$7.5 million as certain financial targets are not expected to be achieved.

Fiscal Quarters

Our fiscal year is typically based on 52-weeks, with each quarter composed of 13 weeks ending on the last Saturday on, or closest to, March 31, June 30, September 30, and December 31. A 53rd week in the fourth quarter of the fiscal year is occasionally necessary to align with a December 31 calendar year-end, which occurred in fiscal year 2022.

Business Trends

The demand and pricing for our products and services continued to increase meaningfully in fiscal year 2022. Many of our pharmaceutical and biotechnology clients continued to intensify their use of strategic outsourcing to improve their operating efficiency and to access capabilities that they do not maintain internally. The COVID-19 pandemic abated and emerging macroeconomic challenges, including cost inflation, interest rates, and foreign exchanges headwinds, did not have a meaningful impact on client demand in 2022. A reduction in the biotechnology funding environment from peak levels in 2021 also did not have a meaningful impact on demand from small and mid-size biotechnology clients, which continued to be the primary driver of revenue growth. Many of our large biopharmaceutical clients have continued to increase investments in their drug discovery and early-stage development efforts and have strengthened their relationships with outsourced partners, like Charles River, and biotechnology companies to assist them in bringing new drugs to market. Our ability to continue to deliver our leading suite of research and non-clinical development solutions has endeavored our clients to increasingly choose to partner with us for our flexible and efficient outsourcing solutions, broad scientific capabilities, and global scale, resulting in strong revenue growth across all three of our reportable segments in fiscal year 2022.

Demand and pricing for our Research Models and Services increased meaningfully due to our clients' focus on scientific innovation resulting in increased biomedical research activity, which drove robust revenue growth in fiscal year 2022. This was particularly true in North America and China, with China reporting healthy growth rates despite a modest impact from COVID-19 in 2022. Demand for research model services continued to perform very well, led by our Insourcing Solutions business, particularly our CRADL™ operations. Clients are increasingly adopting CRADL™'s flexible model to access laboratory space without having to invest in internal infrastructure. To support client demand, we are continuing to expand CRADL™'s footprint both organically and through the acquisition of Explora BioLabs in April 2022. We are confident that research models and services will remain essential tools for our clients' drug discovery and early-stage development efforts.

Our DSA reportable segment continued to benefit from these trends in fiscal year 2022. Robust Safety Assessment revenue growth was primarily driven by unprecedented client demand and increased pricing, which was supported by record backlog levels. We believe that our comprehensive scientific capabilities and global scale, as well as the breadth and depth of our scientific expertise, quality, and responsiveness remain key criteria when our clients make the decision to outsource to us. Biotechnology clients continue to move their programs forward and utilize outsourcing to achieve their goal of more efficient and effective drug research to bring innovative new therapies to market. We continued to enhance our Discovery Services capabilities to provide clients with a comprehensive portfolio that enables them to start working with us at the earliest stages of the discovery process. We have accomplished this in recent years through acquisitions and by adding cutting-edge capabilities to our discovery toolkit through technology partnerships. In fiscal year 2022, demand in our Discovery Services business also increased, but moderated from prior-year levels as some clients took longer to commence new projects.

Demand for our products and services that support our clients' manufacturing activities increased across most of our Manufacturing Solutions businesses in fiscal year 2022. Demand for our Microbial Solutions business remained strong as manufacturers continued to increase their use of our rapid microbial testing solutions. Within our Biologics Solutions business, biologics testing services continued to benefit from robust demand driven by our analytical testing services to address the rapidly growing proportion of biologic drugs in the pipeline and on the market, including cell and gene therapies. We enhanced our Biologics Solutions portfolio in 2021 with the acquisitions of Cognate (March 2021) and Vigene (June 2021) to expand our scientific capabilities into the cell and gene therapy CDMO sector. Demand for our CDMO services was negatively impacted in fiscal year 2022 by the loss of a large COVID-19 project in 2021 that we were unable to backfill and other integration-related challenges that required resources and investments to enhance infrastructure and optimize processes within the business. We believe the initiatives that we have implemented to improve the performance of our CDMO business are beginning to gain traction, and will enable Charles River to be a premier scientific partner for development, testing, and manufacturing of advanced drug modalities and further enhance our presence in the high-growth cell and gene therapy sector.

Overview of Results of Operations and Liquidity

Revenue for fiscal year 2022 was \$4.0 billion compared to \$3.5 billion in fiscal year 2021. The 2022 increase as compared to the corresponding period in 2021 was \$435.9 million, or 12.3%, and was primarily due to the increased demand within our DSA segment, the impact of the 53rd week, and our recent acquisitions; partially offset by the recent divestitures (principally RMS Japan and CDMO Sweden), and the negative effect of changes in foreign currency exchange rates when compared to the corresponding period in 2021.

In fiscal year 2022, our operating income and operating income margin were \$651.0 million and 16.4%, respectively, compared with \$589.9 million and 16.7%, respectively, in fiscal year 2021. The increase in operating income was primarily due to the contribution of higher revenue described above; partially offset by higher amortization related to our recent acquisitions, higher operating costs associated with our CDMO business, higher staffing costs, and modest inflationary pressures compared to the corresponding period in 2021. These increased costs were the primary driver of the decreased operating income margin compared to the corresponding period in 2021.

Net income attributable to common shareholders increased to \$486.2 million in fiscal year 2022, from \$391.0 million in the corresponding period of 2021. The increase in net income attributable to common shareholders of \$95.2 million was primarily due to the increase in operating income described above, the gain on the divestiture of our Avian business of \$123.4 million, partially offset by higher provision for income taxes compared to the corresponding period in 2021.

During fiscal year 2022, our cash flows from operations was \$619.6 million compared with \$760.8 million for fiscal year 2021. The decrease was driven by changes in our working capital balances, principally the timing of our revenue and collections of net contract balances from customers (collectively trade receivables and contract assets, net; deferred revenue; and customer contract deposits) and timing of payments to vendors, increased inventory purchases to support growth initiatives of our businesses, principally Safety Assessment, and higher variable compensation payments in 2022 as compared to the same period in 2021.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements prepared in accordance with generally accepted accounting principles in the United States (U.S.). The preparation of these financial statements requires us to make certain estimates and assumptions that may affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses during the reported periods and related disclosures. These estimates and assumptions are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates could occur in the future. We base our estimates on our historical experience, trends in the industry, and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from our estimates under different assumptions or conditions. Our significant accounting policies are more fully described in Note 1, "Description of Business and Summary of Significant Accounting Policies", to our consolidated financial statements contained in Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K.

An accounting policy is deemed to be critical if the nature of the estimates or assumptions is material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change, and the impact of the estimates and assumptions on our consolidated financial statements is or may be material. We believe the following represent our critical accounting policies and estimates used in the preparation of our financial statements:

Revenue Recognition

Revenue is recognized when, or as, obligations under the terms of a contract are satisfied, which occurs when control of the promised products or services is transferred to customers. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring products or services to a customer ("transaction price").

To the extent the transaction price includes variable consideration, we estimate the amount of variable consideration that should be included in the transaction price utilizing the amount to which we expect to be entitled. Variable consideration is included in the transaction price if, in our judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all information (historical, current and forecasted) that is reasonably available. Sales, value add, and other taxes collected on behalf of third parties are excluded from revenue.

When determining the transaction price of a contract, an adjustment is made if payment from a customer occurs either significantly before or significantly after performance, resulting in a significant financing component. Generally, we do not extend payment terms beyond one year. Applying the practical expedient, we do not assess whether a significant financing component exists if the period between when we perform our obligations under the contract and when the customer pays is one year or less. Our contracts do not generally contain significant financing components.

Contracts with customers may contain multiple performance obligations. For such arrangements, the transaction price is allocated to each performance obligation based on the estimated relative standalone selling prices of the promised products or services underlying each performance obligation. We determine standalone selling prices based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, we estimate the standalone selling price taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations.

Contracts are often modified to account for changes in contract specifications and requirements. Contract modifications exist when the modification either creates new, or changes existing, enforceable rights and obligations. Generally, when contract modifications create new performance obligations, the modification is considered to be a separate contract and revenue is recognized prospectively. When contract modifications change existing performance obligations, the impact on the existing transaction price and measure of progress for the performance obligation to which it relates is generally recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) on a cumulative catch-up basis.

Product revenue is generally recognized when the customer obtains control of our product, which occurs at a point in time, and may be upon shipment or upon delivery based on the contractual shipping terms of a contract. Service revenue is generally recognized over time as the services are delivered to the customer based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. Depending on which better depicts the transfer of value to the customer, we generally measure our progress using either cost-to-cost (input method) or right-to-invoice (output method). We use the cost-to-cost measure of progress when it best depicts the transfer of value to the customer which occurs as we incur costs on our contract, generally related to fixed fee service contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. The costs calculation includes variables such as labor hours, allocation of overhead costs, research model costs, and subcontractor costs. Revenue is recorded proportionally as costs are incurred. The right-to-invoice measure of progress is generally related to rate per unit contracts, as the extent of progress towards completion is measured based on discrete service or time-based increments, such as samples tested or labor hours incurred. Revenue is recorded in the amount invoiced since that amount corresponds directly to the value of our performance to date. During fiscal year 2022, \$2.4 billion, or approximately 60%, of our total revenue recognized (\$4.0 billion) is DSA service revenue transferred over time.

Income Taxes

We prepare and file income tax returns based on our interpretation of each jurisdiction's tax laws and regulations. In preparing our consolidated financial statements, we estimate our income tax liability in each of the jurisdictions in which we operate by estimating our actual current tax expense together with assessing temporary differences resulting from differing treatment of items for tax and financial reporting purposes. These differences result in deferred tax assets and liabilities, which are included in our consolidated balance sheets. Significant management judgment is required in assessing the realizability of our deferred tax assets. In performing this assessment, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. In making this determination, under the applicable financial accounting standards, we are allowed to consider the scheduled reversal of deferred tax liabilities, projected future taxable income, and the effects of tax planning strategies. Our valuation allowance was \$294.8 million as of December 31, 2022. In the event actual results differ from our estimates, we will adjust our estimates in future periods and may establish additional allowances or reversals as necessary.

We account for uncertain tax positions using a "more-likely-than-not" threshold for recognizing and resolving uncertain tax positions. We evaluate uncertain tax positions on a quarterly basis and consider various factors, that include, but are not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, the effective settlement of matters subject to audit, information obtained during in process audit activities and changes in facts or circumstances related to a tax position. We adjust the level of the liability to reflect any subsequent changes in the relevant facts surrounding the uncertain positions. Our liabilities for uncertain tax positions can be relieved only if the contingency becomes legally extinguished through either payment to the taxing authority or the expiration of the statute of limitations, the recognition of the benefits associated with the position meet the "more-likely-than-not" threshold or the liability becomes effectively settled through the controversy process. We consider matters to be effectively settled once the taxing authority has completed all of its required or expected examination procedures, including all appeals and administrative reviews; we have no plans to appeal or litigate any aspect of the tax position; and we believe that it is highly unlikely that the taxing authority would re-examine the related tax position. We also accrue for potential interest and penalties related to unrecognized tax benefits in income tax expense.

We generally receive a tax deduction upon the exercise of non-qualified stock options by employees, or the vesting of restricted stock and performance share units held by employees. The stock price, timing, and amount of vesting and exercising of stock-based compensation could materially impact our current tax expense.

Goodwill and Intangible Assets

We use assumptions and estimates in determining the fair value of assets acquired and liabilities assumed in a business combination. The determination of the fair value of intangible assets, which represents a significant portion of the purchase price in many of our acquisitions, requires the use of significant judgment with regard to (i) the fair value; and (ii) whether such intangibles are amortizable or non-amortizable and, if the former, the period and the method by which the intangible asset will be amortized. We utilize commonly accepted valuation techniques, such as the income, cost and market approaches, as appropriate, in establishing the fair value of intangible assets. Typically, key assumptions include projections of cash flows that arise from identifiable intangible assets of acquired businesses as well as discount rates based on an analysis of the weighted average cost of capital, adjusted for specific risks associated with the assets.

In our recent acquisitions, customer relationship intangible assets (also referred to as client relationships) have been the most significant identifiable assets acquired. To determine the fair value of the acquired client relationships, we utilized the multiple period excess earnings model (a commonly accepted valuation technique), which includes the following key assumptions: projections of cash flows from the acquired entities, which included future revenue growth rates, operating income margins, and customer attrition rates; as well as discount rates based on an analysis of the acquired entities' weighted average cost of capital. The value of the client relationship acquired was \$64.0 million for fiscal year 2022 and \$378.1 million for fiscal year 2021 related to business combinations.

We review definite-lived intangible assets for impairment when indication of potential impairment exists, such as a significant reduction in cash flows associated with the assets. 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 asset. No significant impairments were recognized during fiscal years 2022 and 2021.

We evaluate goodwill for impairment annually, during the fourth quarter, and when events occur or circumstances change that may reduce the fair value of the asset below its carrying amount. Events or circumstances that might require an interim evaluation include unexpected adverse business conditions, economic factors, unanticipated technological changes or competitive activities, loss of key personnel and acts by governments and courts. Estimates of future cash flows require assumptions related to revenue and operating income growth, asset-related expenditures, working capital levels and other factors. Different assumptions from those made in our analysis could materially affect projected cash flows and our evaluation of goodwill for impairment.

We perform the quantitative impairment test where we compare the fair value of our reporting units to their carrying values. If the carrying values of the net assets assigned to the reporting units exceed the fair values of the reporting units, then we would record an impairment loss equal to the difference. In fiscal years 2022 and 2021 we performed the quantitative goodwill impairment test for our reporting units. Fair value was determined by using a weighted combination of a market-based approach and an income approach, as this combination was deemed to be the most indicative of our fair value in an orderly transaction between market participants. Under the market-based approach, we utilized information about our company as well as publicly available industry information to determine earnings multiples and sales multiples that are used to value our reporting units. Under the income approach, we determined fair value based on the estimated future cash flows of each reporting unit, discounted by an estimated weighted-average cost of capital, which reflects the overall level of inherent risk of the reporting unit and the rate of return an outside investor would expect to earn. Our 2022 and 2021 impairment tests indicated that goodwill was not impaired.

Valuation and Impairment of Long-Lived Assets

Long-lived assets to be held and used, including property, plant, and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets or asset group may not be recoverable. Factors we consider important that could trigger an impairment review include, but are not limited to, the following:

- significant underperformance relative to expected historical or projected future operating results;
- significant negative industry or economic trends; or
- significant changes or developments in strategy or operations that negatively affect the utilization of our long-lived assets.

Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset, net of any sublease income, if applicable, and its eventual disposition. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the assets, the assets are written-down to their fair values. We measure any impairment based on a projected discounted cash flow method using a discount rate determined by management to be commensurate with the risk inherent in our current business model. Significant judgments are required to estimate future cash flows, including the selection of appropriate discount rates and other assumptions. We may also estimate fair value based on

market prices for similar assets, as appropriate. Changes in these estimates and assumptions could materially affect the determination of fair value for these assets. No significant impairments were recognized during fiscal year 2022 and 2021.

Pension and Other Post-Retirement Benefit Plans

Several of our U.S. and non-U.S. subsidiaries sponsor defined benefit pension and other post-retirement benefit plans. We recognize the funded status of our defined benefit pension and other postretirement benefit plans as an asset or liability. This amount is defined as the difference between the fair value of plan assets and the benefit obligation. We measure plan assets and benefit obligations as of the date of our fiscal year end.

The cost and obligations of these arrangements are calculated using many assumptions to estimate the benefits that the employee earns while working, the amount of which cannot be completely determined until the benefit payments cease. Major assumptions used in the accounting for these employee benefit plans include the expected return on plan assets, withdrawal and mortality rates, discount rate, and rate of increase in employee compensation levels. Assumptions are determined based on our data and appropriate market indicators, and are evaluated each year as of the plans' measurement date. Should any of these assumptions change, they would have an effect on net periodic pension costs and the unfunded benefit obligation.

The expected long-term rate of return on plan assets reflects the average rate of earnings expected on the funds invested, or to be invested, to provide for the benefits included in the projected benefit obligations. In determining the expected long-term rate of return on plan assets, we consider the relative weighting of plan assets, the historical performance of total plan assets and individual asset classes and economic and other indicators of future performance.

The discount rate reflects the rate we would have to pay to purchase high-quality investments that would provide cash sufficient to settle our current pension obligations. A 25-basis point change in the discount rate changes the projected benefit obligation by approximately \$7 million for all our plans.

The rate of compensation increase reflects the expected annual salary increases for the plan participants based on historical experience and the current employee compensation strategy.

New Accounting Pronouncements

For a discussion of new accounting pronouncements, refer to Note 1, "Description of Business and Summary of Significant Accounting Policies" to our consolidated financial statements contained in Item 8, "Financial Statements and Supplementary Data," in this Annual Report on Form 10-K.

Results of Operations

Fiscal Year 2022 Compared to Fiscal Year 2021

Revenue and Operating Income

The following tables present consolidated revenue by type and by reportable segment:

	Fiscal Year		\$ change	% change
	2022	2021		
(in thousands, except percentages)				
Service revenue	\$ 3,216,904	\$ 2,755,579	\$ 461,325	16.7 %
Product revenue	759,156	784,581	(25,425)	(3.2)%
	<u>\$ 3,976,060</u>	<u>\$ 3,540,160</u>	<u>\$ 435,900</u>	<u>12.3 %</u>

	Fiscal Year		\$ change	% change	Impact of FX
	2022	2021			
(in thousands, except percentages)					
RMS	\$ 739,175	\$ 690,437	\$ 48,738	7.1 %	(3.3)%
DSA	2,447,316	2,107,231	340,085	16.1 %	(3.3)%
Manufacturing	789,569	742,492	47,077	6.3 %	(4.4)%
Total revenue	<u>\$ 3,976,060</u>	<u>\$ 3,540,160</u>	<u>\$ 435,900</u>	<u>12.3 %</u>	<u>(3.5)%</u>

The following table presents operating income by reportable segment:

	Fiscal Year		\$ change	% change	Impact of FX
	2022	2021			
(in thousands, except percentages)					
RMS	\$ 160,410	\$ 166,814	\$ (6,404)	(3.8)%	(3.8)%
DSA	532,889	406,978	125,911	30.9 %	(0.3)%
Manufacturing	167,084	246,390	(79,306)	(32.2)%	(5.8)%
Unallocated corporate	(209,408)	(230,320)	20,912	(9.1)%	(0.8)%
Total operating income	<u>\$ 650,975</u>	<u>\$ 589,862</u>	<u>\$ 61,113</u>	<u>10.4 %</u>	<u>(3.3)%</u>
Operating income % of revenue	16.4 %	16.7 %			(30) bps

The following presents and discusses our consolidated financial results by each of our reportable segments:

RMS

	Fiscal Year		\$ change	% change	Impact of FX
	2022	2021			
(in thousands, except percentages)					
Revenue	\$ 739,175	\$ 690,437	\$ 48,738	7.1 %	(3.3)%
Cost of revenue (excluding amortization of intangible assets)	455,607	414,119	41,488	10.0 %	
Selling, general and administrative	102,795	93,211	9,584	10.3 %	
Amortization of intangible assets	20,363	16,293	4,070	25.0 %	
Operating income	<u>\$ 160,410</u>	<u>\$ 166,814</u>	<u>\$ (6,404)</u>	<u>(3.8)%</u>	<u>(3.8)%</u>
Operating income % of revenue	21.7 %	24.2 %			(250) bps

RMS revenue increased \$48.7 million due primarily to higher research model services revenue, specifically the Insourcing Solutions business, which included the acquisition of Explora BioLabs contributing \$44.6 million, higher research model product revenue in North America and China, and the impact of the 53rd week, which contributed \$7.4 million to revenue; partially offset by the divestiture of RMS Japan, which decreased product revenue by \$39.0 million, lower Cell Solutions revenue, and the effect of changes in foreign currency exchange rates.

RMS operating income decreased \$6.4 million compared to fiscal year 2021. RMS operating income as a percentage of revenue for fiscal year 2022 was 21.7%, a decrease of 250 bps from 24.2% for fiscal year 2021. Operating income and operating income as a percentage of revenue decreased primarily due to the divestiture of RMS Japan, higher operating cost associated with our

Insourcing Solutions and Cell Solutions businesses, a modest COVID-related impact in China, and foreign exchange impact discussed above.

DSA

	Fiscal Year		\$ change	% change	Impact of FX
	2022	2021			
	(in thousands, except percentages)				
Revenue	\$ 2,447,316	\$ 2,107,231	\$ 340,085	16.1 %	(3.3)%
Cost of revenue (excluding amortization of intangible assets)	1,617,760	1,422,850	194,910	13.7 %	
Selling, general and administrative	213,870	192,143	21,727	11.3 %	
Amortization of intangible assets	82,797	85,260	(2,463)	(2.9)%	
Operating income	\$ 532,889	\$ 406,978	\$ 125,911	30.9 %	(0.3)%
Operating income % of revenue	21.8 %	19.3 %		250 bps	

DSA revenue increased \$340.1 million due primarily to service revenue which increased in both the Safety Assessment and Discovery Services businesses due principally to increased demand (principally biotechnology clients) and pricing of services; the impact of the 53rd week, which contributed \$37.1 million to revenue, and the acquisition of Retrogenix which contributed \$3.3 million to Discovery Services revenue; partially offset by the effect of changes in foreign currency exchange rates.

DSA operating income increased \$125.9 million compared to fiscal year 2021. DSA operating income as a percentage of revenue for fiscal year 2022 was 21.8%, an increase of 250 bps from 19.3% for fiscal year 2021. Operating income and operating income as a percentage of revenue increased primarily due to the contribution of higher revenue described above as well as lower acquisition related costs and adjustments to contingent consideration arrangements related to certain acquisitions; partially offset by higher staffing costs, modest inflationary pressures compared to fiscal year 2021, and foreign exchange impact discussed above.

Manufacturing

	Fiscal Year		\$ change	% change	Impact of FX
	2022	2021			
	(in thousands, except percentages)				
Revenue	\$ 789,569	\$ 742,492	\$ 47,077	6.3 %	(4.4)%
Cost of revenue (excluding amortization of intangible assets)	440,042	368,155	71,887	19.5 %	
Selling, general and administrative	139,027	104,642	34,385	32.9 %	
Amortization of intangible assets	43,416	23,305	20,111	86.3 %	
Operating income	\$ 167,084	\$ 246,390	\$ (79,306)	(32.2)%	(5.8)%
Operating income % of revenue	21.2 %	33.2 %		(1,200) bps	

Manufacturing revenue increased \$47.1 million due primarily to our Biologics Solutions business, which includes the CDMO business acquisitions of Cognate and Vigene, which collectively contributed \$43.8 million, higher service revenue within our Biologics Testing Solutions business, increased revenue in our Microbial Solutions business (principally due to increased demand of endotoxin products), and the impact of the 53rd week, which contributed \$8.2 million to revenue; partially offset by the divestiture of the CDMO Sweden business, which decreased revenue by \$9.9 million, and the effect of changes in foreign currency exchange rates.

Manufacturing operating income decreased \$79.3 million compared to fiscal year 2021. Manufacturing operating income as a percentage of revenue for fiscal year 2022 was 21.2%, a decrease of 1,200 bps from 33.2% for fiscal year 2021. Operating income and operating income as a percentage of revenue decreased primarily due to higher amortization of intangible assets, higher operating costs associated with our CDMO acquisitions, the absence of a favorable adjustment related to a contingent consideration arrangement recorded during 2021; partially offset by a favorable ruling from tax authorities on certain indirect tax positions recorded within selling, general and administrative expense and foreign exchange impact discussed above.

Unallocated Corporate

	Fiscal Year		\$ change	% change
	2022	2021		
	(in thousands, except percentages)			
Unallocated corporate	\$ 209,408	\$ 230,320	\$ (20,912)	(9.1)%
Unallocated corporate % of revenue	5.3 %	6.5 %		(120) bps

Unallocated corporate costs consist of selling, general and administrative expenses that are not directly related or allocated to the reportable segments. The decrease in unallocated corporate costs of \$20.9 million, or 9.1%, compared to fiscal year 2021 is primarily related to decreased costs associated with the evaluation and integration of our acquisition activity. Costs as a percentage of revenue for fiscal year 2022 was 5.3%, a decrease of 120 bps from 6.5% for fiscal year 2021.

Other Income (Expense)

	Fiscal Year		\$ change	% change
	December 31, 2022	December 25, 2021		
	(in thousands, except percentages)			
Other income (expense):				
Interest income	\$ 780	\$ 652	\$ 128	19.6 %
Interest expense	(59,291)	(73,910)	14,619	(19.8)%
Other income (expense), net	30,523	(35,894)	66,417	(185.0)%
Total other expense, net	\$ (27,988)	\$ (109,152)	\$ 81,164	(74.4)%

Interest expense for fiscal year 2022 was \$59.3 million, a decrease of \$14.6 million, or 19.8%, compared to \$73.9 million in fiscal year 2021. The decrease was due primarily to the absence of \$26 million of debt extinguishment costs associated with the repayment of the 2026 Senior Notes and related write-off of deferred financing costs incurred in fiscal year 2021, higher foreign currency gains recognized in connection with a debt-related foreign exchange forward contract in fiscal year 2022 compared to fiscal year 2021; partially offset by higher interest rates on our variable debt in fiscal year 2022 compared to fiscal year 2021.

Other income, net for fiscal year 2022 was \$30.5 million, an increase of \$66.4 million, or 185.0%, compared to Other expense, net of \$35.9 million for fiscal year 2021. The increase was due primarily to a gain on the divestiture of our Avian business of \$123.4 million during fiscal year 2022 compared to a gain on the divestiture of our RMS Japan business of \$22.7 million during fiscal year 2021; partially offset by higher foreign currency losses recognized in connection with a U.S. dollar denominated loan borrowed by a non-U.S. entity with a different functional currency in fiscal year 2022 as compared to fiscal year 2021, and net losses on our life insurance investments for fiscal year 2022 as compared to gains in fiscal year 2021.

Income Taxes

	Fiscal Year		\$ change	% change
	2022	2021		
	(in thousands, except percentages)			
Provision for income taxes	\$ 130,379	\$ 81,873	\$ 48,506	59.2 %
Effective tax rate	20.9 %	17.0 %		390 bps

Income tax expense for fiscal year 2022 was \$130.4 million, an increase of \$48.5 million compared to \$81.9 million for fiscal year 2021. Our effective tax rate was 20.9% for fiscal year 2022 compared to 17.0% for fiscal year 2021. The increase in our effective tax rate in fiscal year 2022 compared to fiscal year 2021 was primarily attributable to a decreased tax benefit from stock-based compensation deductions and tax expense related to the divestiture of Avian.

Liquidity and Capital Resources

Liquidity and Cash Flows

We currently require cash to fund our working capital needs, capital expansion, acquisitions, and to pay our debt, lease, venture capital and strategic equity investments, and pension obligations. Our principal sources of liquidity have been our cash flows from operations, recent divestitures, supplemented by long-term borrowings. Based on our current business plan, we believe that our existing funds, when combined with cash generated from operations and our access to financing resources, are sufficient to fund our operations for the foreseeable future.

The following table presents our cash, cash equivalents and short-term investments:

	December 31, 2022	December 25, 2021
	(in thousands)	
Cash and cash equivalents:		
Held in U.S. entities	\$ 15,813	\$ 28,157
Held in non-U.S. entities	218,099	213,057
Total cash and cash equivalents	233,912	241,214
Short-term investments:		
Held in non-U.S. entities	998	1,063
Total cash, cash equivalents and short-term investments	\$ 234,910	\$ 242,277

The following table presents our net cash provided by operating activities:

	Fiscal Year	
	2022	2021
	(in thousands)	
Net income	\$ 492,608	\$ 398,837
Adjustments to reconcile net income to net cash provided by operating activities	279,586	319,020
Changes in assets and liabilities	(152,554)	42,942
Net cash provided by operating activities	\$ 619,640	\$ 760,799

Net cash provided by cash flows from operating activities represents the cash receipts and disbursements related to all of our activities other than investing and financing activities. Operating cash flow is derived by adjusting our net income for (1) non-cash operating items such as depreciation and amortization, stock-based compensation, loss on debt extinguishment and other financing costs, deferred income taxes, gains and/or losses on venture capital and strategic equity investments, gains and/or losses on divestitures, changes in fair value of contingent consideration, as well as (2) changes in operating assets and liabilities, which reflect timing differences between the receipt and payment of cash associated with transactions and when they are recognized in our results of operations. During fiscal year 2022, our cash flows from operations was \$619.6 million compared with \$760.8 million for fiscal year 2021. The decrease was driven by changes in our working capital balances, principally the timing of our revenue and collections of net contract balances from customers (collectively trade receivables and contract assets, net; deferred revenue; and customer contract deposits) and timing of payments to vendors, increased inventory purchases to support growth initiatives of our businesses, principally Safety Assessment, and higher variable compensation payments in 2022 as compared to the same period in 2021.

The following table presents our net cash used in investing activities:

	Fiscal Year	
	2022	2021
	(in thousands)	
Acquisitions of businesses and assets, net of cash acquired	\$ (283,392)	\$ (1,293,095)
Capital expenditures	(324,733)	(228,772)
Proceeds from sale of businesses, net	163,275	122,694
Investments, net	(153,725)	(39,023)
Other, net	(9,347)	264
Net cash used in investing activities	\$ (607,922)	\$ (1,437,932)

The primary use of cash used in investing activities in fiscal year 2022 related to capital expenditures to support the growth of the business, the acquisition of Explora BioLabs, and investments in certain venture capital and strategic equity investments;

partially offset by the proceeds from the divestiture of Avian. The primary use of cash used in investing activities in fiscal year 2021 related to the acquisitions of Cognate, Vigene, Distributed Bio, Retrogenix, and certain assets from a distributor, capital expenditures to support the growth of the business, and investments in certain venture capital and strategic equity investments; partially offset by the proceeds from the divestitures of RMS Japan and CDMO Sweden.

The following table presents our net cash used in financing activities:

	Fiscal Year	
	2022	2021
	(in thousands)	
Proceeds from long-term debt and revolving credit facility	\$ 2,952,430	\$ 6,951,113
Payments on long-term debt, revolving credit facility, and finance lease obligations	(2,932,636)	(6,242,877)
Proceeds from exercises of stock options	25,110	45,652
Purchase of treasury stock	(38,651)	(40,707)
Payment of debt extinguishment and financing costs	—	(38,255)
Purchases of additional equity interests, net	(30,533)	—
Payment of contingent considerations	(10,356)	(2,328)
Other, net	(7,761)	—
Net cash (used in) provided by financing activities	<u>\$ (42,397)</u>	<u>\$ 672,598</u>

For fiscal year 2022, net cash used in financing activities reflected the net proceeds of \$19.8 million on our Credit Facility, Senior Notes, and finance lease obligations. Included in the net proceeds are the following amounts:

- Borrowings under our Credit Facility of \$300 million, which were used primarily for the acquisition of Explora BioLabs;
- Net repayments of \$100 million on our Credit Facility throughout fiscal year 2022;
- Payments of \$2.0 billion partially offset by \$1.9 billion of proceeds in connection with a non-U.S. Euro functional currency entity repaying Euro loans and replacing the Euro loans with U.S. dollar denominated loans. A series of forward currency contracts were executed to mitigate any foreign currency gains or losses on the U.S. dollar denominated loans. These proceeds and payments are presented as gross financing activities.

Net cash used in financing activities also reflected treasury stock purchases of \$38.7 million made due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements, approximately \$15 million payment to purchase an additional 10% interest in a subsidiary, \$15.7 million payment to acquire the remaining 2% ownership interest in Cognate, \$10.4 million of contingent consideration payments, and \$5.3 million of dividends paid to noncontrolling interests; partially offset by proceeds from exercises of employee stock options of \$25.1 million.

For fiscal year 2021, net cash provided by financing activities reflected the net proceeds of \$708.2 million on our Credit Facility, Senior Notes, and finance lease obligations. Included in the net proceeds are the following amounts:

- Payments of approximately \$147 million on our term loan;
- Proceeds of \$1.0 billion from the issuance of the 2029 and 2031 Senior Notes, which were used to prepay our \$500 million 2026 Senior Notes;
- Borrowings under our Credit Facility of \$1.3 billion, which were used primarily for the acquisitions of Cognate, Vigene, Distributed Bio, Retrogenix and certain assets from a distributor;
- Net payments of \$710 million made to our Credit Facility throughout fiscal year 2021;
- Gross proceeds and payments of approximately \$1.5 billion, but having a net impact of zero, were incurred as part of amending and restating our Credit Facility;
- Gross proceeds and payments of approximately \$3.0 billion in connection with a non-U.S. Euro functional currency entity repaying Euro loans and replacing the Euro loans with U.S. dollar denominated loans. A series of forward currency contracts were executed to mitigate any foreign currency gains or losses on the U.S. dollar denominated loans. These proceeds and payments are presented as gross financing activities.

Net cash provided by financing activities also reflected proceeds from exercises of employee stock options of \$45.7 million, partially offset by treasury stock purchases of \$40.7 million made due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements. Additionally we paid \$21 million of debt

extinguishment costs associated with the 2026 Senior Notes repayment and \$17 million of debt financing costs associated with the 2029 and 2031 Senior Notes issuances and amending and restating the Credit Agreement.

Financing and Market Risk

We are exposed to market risk from changes in interest rates and currency exchange rates, which could affect our future results of operations and financial condition. We manage our exposure to these risks through our regular operating and financing activities.

Amounts outstanding under our Credit Facility and our Senior Notes were as follows:

	December 31, 2022	December 25, 2021
	(in thousands)	
Revolving facility	\$ 1,197,586	\$ 1,161,431
4.25% Senior Notes due 2028	500,000	500,000
3.75% Senior Notes due 2029	500,000	500,000
4.0% Senior Notes due 2031	500,000	500,000
Total	\$ 2,697,586	\$ 2,661,431

The interest rates applicable to the Credit Facility are equal to (A) for revolving loans denominated in U.S. dollars, at our option, either the base rate (which is the higher of (1) the prime rate, (2) the federal funds rate plus 0.50%, or (3) the one-month adjusted LIBOR rate plus 1%) or the adjusted LIBOR rate, (B) for revolving loans denominated in euros, the adjusted EURIBOR rate and (C) for revolving loans denominated in sterling, the daily simple SONIA rate, in each case, plus an interest rate margin based upon our leverage ratio.

Our 2028 Senior Notes have semi annual interest payments due May 1 and November 1. Our 2029 and 2031 Senior Notes have semi annual interest payments due March 15 and September 15.

During the fourth fiscal quarter of 2022, we entered into an interest rate swap with a notional amount of \$500.0 million to manage interest rate fluctuation related to our floating rate borrowings under the Credit Facility, at a fixed rate of 4.700% making the total interest rate 5.825% at our current spread. We designated this derivative instrument as a cash flow hedge at the inception of the contract and expect it to be highly effective.

Our off-balance sheet commitments related to our outstanding letters of credit as of December 31, 2022 were \$18.6 million.

Foreign Currency Exchange Rate Risk

We operate on a global basis and have exposure to some foreign currency exchange rate fluctuations for our financial position, results of operations, and cash flows.

While the financial results of our global activities are reported in U.S. dollars, our foreign subsidiaries typically conduct their operations in their respective local currency. The principal functional currencies of our foreign subsidiaries are the Euro, British Pound, and Canadian Dollar. During fiscal year 2022, the most significant drivers of foreign currency translation adjustment we recorded as part of other comprehensive income (loss) were the British Pound, Euro, Canadian Dollar, and Hungarian Forint.

Fluctuations in the foreign currency exchange rates of the countries in which we do business will affect our financial position, results of operations, and cash flows. As the U.S. dollar strengthens against other currencies, the value of our non-U.S. revenue, expenses, assets, liabilities, and cash flows will generally decline when reported in U.S. dollars. The impact to net income as a result of a U.S. dollar strengthening will be partially mitigated by the value of non-U.S. expenses, which will decline when reported in U.S. dollars. As the U.S. dollar weakens versus other currencies, the value of the non-U.S. revenue, expenses, assets, liabilities, and cash flows will generally increase when reported in U.S. dollars. For fiscal year 2022, our revenue would have decreased by \$118.2 million and our operating income would have decreased by \$4.0 million, if the U.S. dollar exchange rate had strengthened by 10%, with all other variables held constant.

We attempt to minimize this exposure by using certain financial instruments in accordance with our overall risk management and our hedge policy. We do not enter into speculative derivative agreements.

We entered into foreign exchange forward contracts during fiscal years December 31, 2022 and 2021 to limit our foreign currency exposure related to a U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency entity under the Credit Facility. Refer to Note 8. Debt and Other Financing Arrangements to our consolidated financial statements contained in Item 8, “Financial Statements and Supplementary Data,” in this Annual Report on Form 10-K for further details regarding these types of forward contracts.

Repurchases of Common Stock

During fiscal year 2022, we did not repurchase any shares under our authorized \$1.3 billion stock repurchase program. As of December 31, 2022, we had \$129.1 million remaining on the authorized stock repurchase program. Our stock-based compensation plans permit the netting of common stock upon vesting of restricted stock, restricted stock units, and performance share units in order to satisfy individual statutory tax withholding requirements. During fiscal year 2022, we acquired \$0.1 million shares for \$38.7 million through such netting.

Commitments and Other Purchasing Arrangements

We lease properties and equipment for use in our operations. In addition to rent, the leases may require us to pay additional amounts for taxes, insurance, maintenance, and other operating expenses. As of December 31, 2022, we had \$622.6 million of operating leases inclusive of future minimum rental commitments under non-cancellable operating leases, net of income from subleases as well as \$43.8 million of financing leases.

In addition to the obligations on the balance sheet at December 31, 2022, we entered into unconditional purchase obligations in the ordinary course of business. Unconditional purchase obligations include agreements to purchase goods or services that are enforceable and legally binding and that specify all significant terms, including fixed or minimum quantities to be purchased, fixed, minimum or variable price provisions, and the approximate timing of the transaction. Purchase obligations exclude agreements that are cancellable at any time without penalty. As of December 31, 2022, we had approximately \$375 million of unconditional purchase obligations, the majority of which are expected to be settled during 2023.

We invest in several venture capital funds that invest in start-up companies, primarily in the life sciences industry. Our total commitment to the funds as of December 31, 2022 was \$193.1 million, of which we funded \$127.8 million through December 31, 2022.

Refer to Note 5. Venture Capital and Strategic Equity Investments to our consolidated financial statements contained in Item 8, “Financial Statements and Supplementary Data,” in this Annual Report on Form 10-K for further details.

In connection with certain business and asset acquisitions, we agreed to make additional payments based upon the achievement of certain financial targets and other milestones in connection with the respective acquisition. As of December 31, 2022 we had approximately \$57 million of gross contingent payments, of which \$13 million are expected to be paid.

We have certain federal and state income tax liabilities of \$43.1 million relating to the one-time Transition Tax on unrepatriated earnings under the 2017 Tax Act. The Transition Tax will be paid, interest free, over an eight-year period through 2026.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

The information called for by this item is incorporated herein by reference to “Item 7. Management’s Discussion and Analysis of Results of Operations - Liquidity and Capital Resources” of this Report; and Note 1 “Description of Business and Summary of Significant Accounting Policies - Fair Value” included in Item 8 of this Report.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Charles River Laboratories International, Inc.:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Charles River Laboratories International, Inc. and its subsidiaries (the “Company”) as of December 31, 2022 and December 25, 2021, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and December 25, 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As described in Management's Report on Internal Control Over Financial Reporting, management has excluded Explora BioLabs from its assessment of internal control over financial reporting as of December 31, 2022 because it was acquired by the Company in a purchase business combination during 2022. We have also excluded Explora BioLabs from our audit of internal control over financial reporting. Explora BioLabs is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent 1.5% and 1.1%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2022.

Definition and Limitations of Internal Control over Financial Reporting

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

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

Critical Audit Matters

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

Discovery and Safety Assessment Service Revenue Recognized Over Time Using the Input Method

As described in Notes 1 and 3 to the consolidated financial statements, the Company recognized Discovery and Safety Assessment (DSA) revenue from services and products transferred over time of \$2,440.6 million for the year-ended December 31, 2022, of which the majority relates to services that are delivered to the customer based on the extent of progress towards completion of the performance obligation that management measures using the cost-to-cost (input method). Management uses the input method measure of progress when it best depicts the transfer of value to the customer, which occurs as the Company incurs costs on its contract, generally related to fixed fee service contracts. Under the input method measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. The cost calculation includes variables such as labor hours, allocation of overhead costs, research model costs, and subcontractor costs. Revenue is recorded proportionally as costs are incurred.

The principal considerations for our determination that performing procedures relating to DSA service revenue recognized over time using the input method is a critical audit matter are the high degree of auditor subjectivity and effort in performing procedures and evaluating audit evidence related to the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to DSA service revenue recognized over time using the input method, including controls over the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation, review of contracts, testing of budget versus actual costs incurred and testing of revenue recognition. These procedures also included, among others (i) reading contracts and reports describing the results of services provided for a sample of DSA service contracts; (ii) evaluating and testing management's process for determining the amount of DSA service revenue recognized over time for a sample of DSA service contracts, which included evaluating the reasonableness of the ratio of costs incurred to date to the total estimated costs at completion of the performance obligations through performing a retrospective comparison of actual costs incurred to historical estimated costs for completed service contracts; and (iii) testing actual costs incurred for a sample of in-progress service contracts by examining evidence of costs incurred.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
February 22, 2023

We have served as the Company's auditor since 1999.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share amounts)

	Fiscal Year		
	2022	2021	2020
Service revenue	\$ 3,216,904	\$ 2,755,579	\$ 2,296,156
Product revenue	759,156	784,581	627,777
Total revenue	3,976,060	3,540,160	2,923,933
Costs and expenses:			
Cost of services provided (excluding amortization of intangible assets)	2,143,318	1,837,487	1,533,230
Cost of products sold (excluding amortization of intangible assets)	370,091	368,035	317,162
Selling, general and administrative	665,098	619,919	528,935
Amortization of intangible assets	146,578	124,857	111,877
Operating income	650,975	589,862	432,729
Other income (expense):			
Interest income	780	652	834
Interest expense	(59,291)	(73,910)	(86,433)
Other income (expense), net	30,523	(35,894)	99,984
Income before income taxes	622,987	480,710	447,114
Provision for income taxes	130,379	81,873	81,808
Net income	492,608	398,837	365,306
Less: Net income attributable to noncontrolling interests	6,382	7,855	1,002
Net income attributable to common shareholders	\$ 486,226	\$ 390,982	\$ 364,304
Earnings per common share			
Net income attributable to common shareholders:			
Basic	\$ 9.57	\$ 7.77	\$ 7.35
Diluted	\$ 9.48	\$ 7.60	\$ 7.20
Weighted-average number of common shares outstanding:			
Basic	50,812	50,293	49,550
Diluted	51,301	51,425	50,611

See Notes to Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Fiscal Year		
	2022	2021	2020
Net income	\$ 492,608	\$ 398,837	\$ 365,306
Other comprehensive income (loss):			
Foreign currency translation adjustment and other	(129,091)	(29,493)	22,345
Pension and other post-retirement benefit plans (Note 11):			
Prior service cost and (losses) gains arising during the period	24,471	(1,193)	15,747
Amortization of net loss, settlement losses, and prior service benefit included in total cost for pension and other post-retirement benefit plans	3,337	1,678	17,861
Unrealized losses on hedging instruments	(1,523)	—	—
Comprehensive income, before income taxes	389,802	369,829	421,259
Less: Income tax (benefit) expense related to items of other comprehensive income (Note 9)	(1,905)	(3,965)	15,372
Comprehensive income, net of income taxes	391,707	373,794	405,887
Less: Comprehensive income related to noncontrolling interests, net of income taxes	2,798	8,678	2,438
Comprehensive income attributable to common shareholders, net of income taxes	\$ 388,909	\$ 365,116	\$ 403,449

See Notes to Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share amounts)

	December 31, 2022	December 25, 2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 233,912	\$ 241,214
Trade receivables and contract assets, net of allowances for credit losses of \$11,278 and \$7,180, respectively	752,390	642,881
Inventories	255,809	199,146
Prepaid assets	89,341	93,543
Other current assets	107,580	97,311
Total current assets	1,439,032	1,274,095
Property, plant and equipment, net	1,465,655	1,291,068
Venture capital and strategic equity investments	311,602	201,352
Operating lease right-of-use assets, net	391,762	292,941
Goodwill	2,849,903	2,711,881
Intangible assets, net	955,275	1,061,192
Deferred tax assets	41,262	40,226
Other assets	148,279	151,537
Total assets	\$ 7,602,770	\$ 7,024,292
Liabilities, Redeemable Noncontrolling Interests and Equity		
Current liabilities:		
Accounts payable	\$ 205,915	\$ 198,130
Accrued compensation	197,078	246,119
Deferred revenue	264,259	219,703
Accrued liabilities	219,758	228,797
Other current liabilities	204,575	140,436
Total current liabilities	1,091,585	1,033,185
Long-term debt, net and finance leases	2,707,531	2,663,564
Operating lease right-of-use liabilities	389,745	252,972
Deferred tax liabilities	215,582	239,720
Other long-term liabilities	174,822	242,859
Total liabilities	4,579,265	4,432,300
Commitments and contingencies (Notes 2, 8, 10, 11, 14 and 15)		
Redeemable noncontrolling interest	42,427	53,010
Equity:		
Preferred stock, \$0.01 par value; 20,000 shares authorized; no shares issued and outstanding	—	—
Common stock, \$0.01 par value; 120,000 shares authorized; 50,944 shares issued and outstanding as of December 31, 2022 and 50,480 shares issued and outstanding as of December 25, 2021	509	505
Additional paid-in capital	1,804,940	1,718,304
Retained earnings	1,432,901	980,751
Treasury stock, at cost, zero shares as of December 31, 2022 and December 25, 2021	—	—
Accumulated other comprehensive loss	(262,057)	(164,740)
Total equity attributable to common shareholders	2,976,293	2,534,820
Noncontrolling interests (nonredeemable)	4,785	4,162
Total equity	2,981,078	2,538,982
Total liabilities, redeemable noncontrolling interests and equity	\$ 7,602,770	\$ 7,024,292

See Notes to Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Fiscal Year		
	2022	2021	2020
Cash flows relating to operating activities			
Net income	\$ 492,608	\$ 398,837	\$ 365,306
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	303,870	265,540	234,924
Stock-based compensation	73,617	71,474	56,341
Loss on debt extinguishment and amortization of other financing costs	4,118	29,964	3,661
Deferred income taxes	(35,884)	(24,006)	(133)
Loss (gain) on venture capital and strategic equity investments, net	26,775	30,420	(100,861)
Provision for credit losses	6,706	1,657	6,376
Gain on divestitures, net	(123,405)	(25,026)	—
Changes in fair value of contingent consideration arrangements	(3,753)	(34,303)	(468)
Other, net	27,542	3,300	7,704
Changes in assets and liabilities:			
Trade receivables and contract assets, net	(150,570)	(26,633)	(85,627)
Inventories	(78,523)	(25,159)	(18,379)
Accounts payable	(2,652)	44,901	748
Accrued compensation	(42,164)	44,304	40,481
Deferred revenue	57,658	(13,402)	28,647
Customer contract deposits	30,457	16,925	8,955
Other assets and liabilities, net	33,240	2,006	(1,100)
Net cash provided by operating activities	619,640	760,799	546,575
Cash flows relating to investing activities			
Acquisition of businesses and assets, net of cash acquired	(283,392)	(1,293,095)	(418,628)
Capital expenditures	(324,733)	(228,772)	(166,560)
Purchases of investments and contributions to venture capital investments	(158,274)	(45,555)	(26,692)
Proceeds from sale of investments	4,549	6,532	11,401
Proceeds from divestitures, net	163,275	122,694	—
Other, net	(9,347)	264	(1,065)
Net cash used in investing activities	(607,922)	(1,437,932)	(601,544)
Cash flows relating to financing activities			
Proceeds from long-term debt and revolving credit facility	2,952,430	6,951,113	2,230,988
Proceeds from exercises of stock options	25,110	45,652	46,586
Payments on long-term debt, revolving credit facility, and finance lease obligations	(2,932,636)	(6,242,877)	(2,200,400)
Purchase of treasury stock	(38,651)	(40,707)	(23,979)
Payment of debt extinguishment and financing costs	—	(38,255)	—
Payments of contingent consideration	(10,356)	(2,328)	—
Purchases of additional equity interests, net	(30,533)	—	—
Other, net	(7,761)	—	(5,947)
Net cash (used in) provided by financing activities	(42,397)	672,598	47,248
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	25,579	17,730	794
Net change in cash, cash equivalents, and restricted cash	(5,100)	13,195	(6,927)
Cash, cash equivalents, and restricted cash, beginning of period	246,314	233,119	240,046
Cash, cash equivalents, and restricted cash, end of period	\$ 241,214	\$ 246,314	\$ 233,119

See Notes to Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS (continued)
(in thousands)

	Fiscal Year		
	2022	2021	2020
Supplemental cash flow information:			
Cash and cash equivalents	\$ 233,912	\$ 241,214	\$ 228,424
Restricted cash included in Other current assets	6,192	4,023	3,074
Restricted cash included in Other assets	1,110	1,077	1,621
Cash, cash equivalents, and restricted cash, end of period	\$ 241,214	\$ 246,314	\$ 233,119
Cash paid for income taxes	\$ 75,909	\$ 75,441	\$ 60,059
Cash paid for interest	\$ 100,754	\$ 70,775	\$ 72,461
Non-cash investing and financing activities:			
Purchases of Property, plant and equipment included in Accounts payable and Accrued liabilities	\$ 88,612	\$ 72,043	\$ 25,614
Assets acquired under finance leases	\$ 8,179	\$ 1,567	\$ 1,571

See Notes to Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(in thousands)

	Common stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock		Total Equity Attributable to Common Shareholders	Noncontrolling Interest	Total Equity
	Shares	Amount				Shares	Amount			
December 28, 2019	48,936	\$ 489	\$ 1,531,785	\$ 280,329	\$ (178,019)	—	\$ —	\$ 1,634,584	\$ 3,244	\$ 1,637,828
Net income	—	—	—	364,304	—	—	—	364,304	1,852	366,156
Other comprehensive income	—	—	—	—	39,145	—	—	39,145	—	39,145
Dividends declared to noncontrolling interest	—	—	—	—	—	—	—	—	(1,529)	(1,529)
Purchase of redeemable noncontrolling interest and recognition of related contingent consideration	—	—	(2,379)	—	—	—	—	(2,379)	—	(2,379)
Issuance of stock under employee compensation plans	977	10	46,576	—	—	—	—	46,586	—	46,586
Purchase of treasury shares	—	—	—	—	—	146	(23,979)	(23,979)	—	(23,979)
Retirement of treasury shares	(146)	(1)	(4,759)	(19,219)	—	(146)	23,979	—	—	—
Stock-based compensation	—	—	56,341	—	—	—	—	56,341	—	56,341
December 26, 2020	49,767	498	1,627,564	625,414	(138,874)	—	—	2,114,602	3,567	2,118,169
Net income	—	—	—	390,982	—	—	—	390,982	2,480	393,462
Other comprehensive loss	—	—	—	—	(25,866)	—	—	(25,866)	—	(25,866)
Dividends declared to noncontrolling interest	—	—	—	—	—	—	—	—	(1,885)	(1,885)
Adjustment of redeemable noncontrolling interest to redemption value	—	—	(21,312)	—	—	—	—	(21,312)	—	(21,312)
Issuance of stock under employee compensation plans	861	8	45,639	—	—	—	—	45,647	—	45,647
Purchase of treasury shares	—	—	—	—	—	148	(40,707)	(40,707)	—	(40,707)
Retirement of treasury shares	(148)	(1)	(5,061)	(35,645)	—	(148)	40,707	—	—	—
Stock-based compensation	—	—	71,474	—	—	—	—	71,474	—	71,474
December 25, 2021	50,480	505	1,718,304	980,751	(164,740)	—	—	2,534,820	4,162	2,538,982
Net income	—	—	—	486,226	—	—	—	486,226	2,362	488,588
Other comprehensive loss	—	—	—	—	(97,317)	—	—	(97,317)	—	(97,317)
Dividends declared to noncontrolling interest	—	—	—	—	—	—	—	—	(1,739)	(1,739)
Adjustment of redeemable noncontrolling interest to redemption value	—	—	(7,507)	—	—	—	—	(7,507)	—	(7,507)
Issuance of stock under employee compensation plans	594	5	25,100	—	—	—	—	25,105	—	25,105
Purchase of treasury shares	—	—	—	—	—	130	(38,651)	(38,651)	—	(38,651)
Retirement of treasury shares	(130)	(1)	(4,574)	(34,076)	—	(130)	38,651	—	—	—
Stock-based compensation	—	—	73,617	—	—	—	—	73,617	—	73,617
December 31, 2022	50,944	\$ 509	\$ 1,804,940	\$ 1,432,901	\$ (262,057)	—	\$ —	\$ 2,976,293	\$ 4,785	\$ 2,981,078

See Notes to Consolidated Financial Statements.

1. DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Business

Charles River Laboratories International, Inc. (the Company), together with its subsidiaries, is a full service, non-clinical global drug development partner. The Company has built upon its 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, that enable the Company to support its clients from target identification through non-clinical development. The Company also provides a suite of products and services to support its clients' manufacturing activities.

Principles of Consolidation

The Company's consolidated financial statements reflect its financial statements and those of its subsidiaries in which the Company holds a controlling financial interest. For consolidated entities in which the Company owns or is exposed to less than 100% of the economics, the Company records net income (loss) attributable to noncontrolling interests in its consolidated statements of income equal to the percentage of the economic or ownership interest retained in such entities by the respective noncontrolling parties. Redeemable noncontrolling interests, where the noncontrolling interest holders have the ability to require the Company to purchase the remaining interests, are classified in the mezzanine section of the consolidated balance sheets, which is presented above the equity section and below liabilities. Intercompany balances and transactions are eliminated in consolidation.

The Company's fiscal year is typically based on 52-weeks, with each quarter composed of 13 weeks ending on the last Saturday on, or closest to, March 31, June 30, September 30, and December 31. A 53rd week in the fourth quarter of the fiscal year is occasionally necessary to align with a December 31 calendar year-end, which occurred in this fiscal year 2022.

Segment Reporting

The Company reports its results in three reportable segments: Research Models and Services (RMS), Discovery and Safety Assessment (DSA), and Manufacturing Solutions (Manufacturing). The Company's RMS reportable segment includes the Research Models, Research Model Services, and Cell Solutions businesses.

Research Models includes the commercial production and sale of small research models, as well as the supply of large research models. Research Model Services includes: Genetically Engineered Models and Services (GEMS), which performs contract breeding and other services associated with genetically engineered models; Research Animal Diagnostic Services (RADS), which provides health monitoring and diagnostics services related to research models; Insourcing Solutions (IS), which provides colony management of its clients' research operations (including recruitment, training, staffing, and management services) within our clients' facilities and utilizing both our Charles River Accelerator and Development Lab (CRADL™) and our Explora BioLabs options, in which we provide vivarium space to our clients; and Cell Solutions, which supplies controlled, consistent, customized primary cells and blood components derived from normal and mobilized peripheral blood, bone marrow, and cord blood.

The Company's DSA reportable segment includes two businesses: Discovery Services and Safety Assessment. The Company provides regulated and non-regulated DSA services to support the research, development, and regulatory-required safety testing of potential new drugs, including therapeutic discovery and optimization plus in vitro and in vivo studies, laboratory support services, and strategic non-clinical consulting and program management to support product development.

The Company's Manufacturing reportable segment includes Microbial Solutions, which provides *in vitro* (non-animal) lot-release testing products, microbial detection products, and species identification services and Biologics Solutions (Biologics), which performs specialized testing of biologics (Biologics Testing Solutions) as well as contract development and manufacturing products and services (CDMO). In December of 2022, the Company sold the Avian Vaccine Services business (Avian), reported in the Manufacturing segment, which supplied specific-pathogen-free chicken eggs and chickens.

Use of Estimates

The preparation of consolidated financial statements in accordance with generally accepted accounting principles in the United States (U.S. GAAP) requires that the Company make estimates and judgments that may affect the reported amounts of assets, liabilities, revenues, expenses and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, judgments, and methodologies. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. Changes in estimates are reflected in reported results in the period in which they become known.

As of the date of issuance of these consolidated financial statements, the Company is not aware of any specific event or circumstance that would require the Company to update estimates, judgments or revise the carrying value of any assets or liabilities. These estimates may change, as new events occur and additional information is obtained, and are recognized in the consolidated financial statements as soon as they become known. Actual results could differ from those estimates and any such differences may be material to the Company's consolidated financial statements.

Newly Adopted Accounting Pronouncements

In November 2021, the FASB issued ASU 2021-10, "Government Assistance (Topic 832): Disclosures by Business Entities About Government Assistance." ASU 2021-10 requires disclosures about transactions with a government that have been accounted for by a grant or contribution accounting model to increase transparency about the types of transactions, the accounting for the transactions, and the effect on the financial statements. The ASU is effective for fiscal years beginning after December 15, 2021 and will be applied on a prospective basis. The Company's adoption of this standard in fiscal year 2022 did not have an impact on the consolidated financial statements and related disclosures.

Newly Issued Accounting Pronouncements

In September 2022, the FASB issued ASU 2022-04, "Liabilities – Supplier Finance Programs (Subtopic 405-50): Disclosure of Supplier Finance Program Obligations." ASU 2022-04 requires quantitative and qualitative disclosures about the use of supplier finance programs. The ASU is effective for fiscal years beginning after December 15, 2022, except for the amendment on rollforward information, which is effective for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years for selected disclosures, and will be applied on a prospective basis. The Company is currently evaluating the impact this new standard will have on the related disclosures in the consolidated financial statements, but does not believe there will be a material impact.

Cash, Cash Equivalents, and Investments

Cash equivalents include money market funds, time deposits and other investments with remaining maturities at the purchase date of three months or less. Time deposits with original maturities of greater than three months are reported as short-term investments.

Trade Receivables and Contract Assets, Net

The Company records trade receivables and contract assets, net of an allowance for credit losses. An allowance for credit losses is established based on historical collection information, a review of major client accounts receivable balances, current economic conditions in the geographies in which it operates, and the Company's expectations of future economic conditions that may affect the collectability of the recorded amounts. Amounts determined to be uncollectible are charged or written off against the allowance.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, investments, trade receivables and contract assets. The Company places cash and cash equivalents and investments in various financial institutions with high credit rating and limits the amount of credit exposure to any one financial institution. Trade receivables and contract assets are primarily from clients in the pharmaceutical and biotechnology industries, as well as academic and government institutions. Concentrations of credit risk with respect to trade receivables and contract assets, which are typically unsecured, are limited due to the wide variety of customers using the Company's products and services as well as their dispersion across many geographic areas. No single client accounted for more than 3% of revenue in fiscal years 2022, 2021, or 2020 or trade receivables as of December 31, 2022 or December 25, 2021.

Fair Value Measurements

The accounting standard for fair value measurements defines fair value, establishes a framework for measuring fair value in accordance with U.S. GAAP, and requires certain disclosures about fair value measurements. Under this standard, fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company has certain financial assets and liabilities recorded at fair value, which have been classified as Level 1, 2 or 3 within the fair value hierarchy:

- Level 1 - Fair values are determined utilizing prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access,
- Level 2 - Fair values are determined by utilizing quoted prices for identical or similar assets and liabilities in active markets or other market observable inputs such as interest rate yield curves and foreign currency spot rates,
- Level 3 - Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The fair value hierarchy level is determined by asset and class based on the lowest level of significant input. The observability of inputs may change for certain assets or liabilities. This condition could cause an asset or liability to be reclassified between levels. The Company recognizes transfers between levels within the fair value hierarchy, if any, at the end of each quarter.

Valuation methodologies used for assets and liabilities measured or disclosed at fair value are as follows:

- Cash equivalents - Valued at market prices determined through third-party pricing services;
- Foreign currency forward contracts - Valued using market observable inputs, such as forward foreign exchange points and foreign exchange rates;
- Interest rate swap contracts - Valued using market observable inputs, such as interest rate yield curves;
- Life insurance policies - Valued at cash surrender value based on the fair value of underlying investments;
- Debt instruments - The book value of the Company's revolving loans, which are variable rate loans carried at amortized cost, approximates the fair value based on current market pricing of similar debt. The book values of the Company's Senior Notes, which are fixed rate debt, are carried at amortized cost. Fair values of the Senior Notes are based on quoted market prices and on borrowing rates available to the Company; and
- Contingent consideration - Valued based on a probability weighting of the future cash flows associated with the potential outcomes and certain option pricing models.

Inventories

The Company's inventories consist of raw materials, work in process and finished product related primarily to small models, large models, cell supply, microbial solutions products, and avian related eggs and flocks, which have since been divested. Inventories are stated at the lower of cost or net realizable value. Inventory value is generally based on the standard cost method for all businesses except for the Avian business, which was based on an average cost. Standard costs are true-up to reflect actual cost. For small models inventory, costs include direct materials such as feed and bedding, costs of personnel directly involved in the care of the models, and an allocation of facility overhead. For the large models inventory, costs are primarily the external cost paid to acquire the model along with allocated overhead costs. For cell supply inventory, costs include direct materials, costs of personnel directly involved in the processing of products sold, and an allocation of facility overhead. For the microbial solutions inventory, costs include direct materials, cost of personnel directly involved in the manufacturing and assembly of products sold, and an allocation of facility overhead. For the avian related inventory, costs included direct materials, such as animal feed, cost of personnel directly involved with the care of the eggs and flocks, and an allocation of facility overhead. Inventory costs are charged to cost of revenue in the period the products are sold to an external party. The Company analyzes its inventory levels on a quarterly basis and writes down inventory that is determined to be damaged, obsolete or otherwise unmarketable, with a corresponding charge to cost of products sold.

The composition of inventories is as follows:

	December 31, 2022	December 25, 2021
	(in thousands)	
Raw materials and supplies	\$ 38,892	\$ 33,118
Work in process	48,367	40,268
Finished products	168,550	125,760
Inventories	<u>\$ 255,809</u>	<u>\$ 199,146</u>

Property, Plant and Equipment, Net

Property, plant and equipment, net, including improvements that significantly add to productive capacity or extend useful life, are carried at cost and are subject to review for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. The cost of normal, recurring, or periodic repairs and maintenance activities related to property, plant and equipment is expensed as incurred. In addition, the Company capitalizes certain internal use computer software development costs. Costs incurred during the preliminary project stage are expensed as incurred, while costs incurred during the application development stage are capitalized and amortized over the estimated useful life of the software. The Company also capitalizes costs related to specific upgrades and enhancements when it is probable the expenditures will result in additional functionality. Maintenance and training costs related to software obtained for internal use are expensed as incurred.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The composition of property, plant and equipment, net is as follows:

	December 31, 2022	December 25, 2021
	(in thousands)	
Land	\$ 58,192	\$ 59,486
Buildings ⁽¹⁾	963,717	987,544
Machinery and equipment ⁽¹⁾	850,353	760,353
Leasehold improvements	294,275	141,525
Furniture and fixtures	27,317	22,520
Computer hardware and software ⁽¹⁾	227,797	210,582
Vehicles ⁽¹⁾	5,421	6,897
Construction in progress	199,713	205,141
Total	2,626,785	2,394,048
Less: Accumulated depreciation	(1,161,130)	(1,102,980)
Property, plant and equipment, net	\$ 1,465,655	\$ 1,291,068

⁽¹⁾ These balances include assets under finance leases. See Note 14, "Leases."

Depreciation expense in fiscal years 2022, 2021 and 2020 was \$157.3 million, \$140.7 million and \$123.0 million, respectively.

Interest costs incurred during the construction of major capital projects are capitalized until the underlying asset is ready for its intended use, at which point the interest costs are amortized as depreciation expense over the life of the underlying asset.

The Company generally depreciates the cost of its property, plant and equipment using the straight-line method over the estimated useful lives of the respective assets as follow:

	Estimated Useful Lives
	(in years)
Land	Indefinite
Buildings and building improvements	10 - 40
Machinery and equipment	3 - 20
Furniture and fixtures	5 - 10
Computer hardware and software	3 - 8
Vehicles	3 - 5

Leasehold improvements are amortized over the shorter of the estimated useful life of the asset or the lease term. Finance lease assets are amortized over the lease term, however, if ownership is transferred by the end of the finance lease, or there is a bargain purchase option, such finance lease assets are amortized over the useful life that would be assigned if such assets were owned.

When the Company disposes of property, plant and equipment, it removes the associated cost and accumulated depreciation from the related accounts on its consolidated balance sheet and includes any resulting gain or loss recorded in Other (expense) income, net in the accompanying consolidated statements of income.

Business Combinations

The Company accounts for business combinations under the acquisition method of accounting. The Company allocates the amounts that it pays for each acquisition to the assets it acquires and liabilities it assumes based on their fair values at the dates of acquisition, including identifiable intangible assets, which typically represents a significant portion of the purchase price. The determination of the fair value of intangible assets requires the use of significant judgment using management's best estimates of inputs and assumptions that a market participant would use. Significant judgments include (i) the fair value; and (ii) whether such intangible assets are amortizable or non-amortizable and, if the former, the period and the method by which the intangible asset will be amortized. The Company utilizes commonly accepted valuation techniques, such as the income, cost, and market approaches as appropriate, in establishing the fair value of intangible assets. Typically, key assumptions include projections of cash flows that arise from identifiable intangible assets of acquired businesses as well as discount rates based on an analysis of the weighted average cost of capital, adjusted for specific risks associated with the assets.

In recent acquisitions, customer relationship intangible assets (also referred to as client relationships) are the most significant identifiable asset acquired. To determine the fair value of the acquired client relationships, the Company typically utilizes the multiple period excess earnings model (a commonly accepted valuation technique), which relies on the following key assumptions: projections of cash flows from the acquired entities, which includes future revenue growth rates, operating income margins, and customer attrition rates; as well as discount rates based on an analysis of the acquired entities' weighted average cost of capital.

Contingent Consideration

The consideration for the Company's acquisitions may include future payments that are contingent upon the occurrence of a particular event. The Company records an obligation for such contingent payments at fair value on the acquisition date. The Company estimates the fair value of contingent consideration obligations through valuation models, such as probability-weighted and option pricing models, that incorporate probability adjusted assumptions and simulations related to the achievement of the milestones and the likelihood of making related payments. The Company revalues these contingent consideration obligations each reporting period. Changes in the fair value of the contingent consideration obligations are recognized in the Company's consolidated statements of income as a component of selling, general and administrative expenses. Changes in the fair value of the contingent consideration obligations can result from changes to one or multiple inputs, including adjustments to the discount rates and changes in the assumed probabilities of successful achievement of certain financial targets.

Discount rates in the Company's valuation models represent a measure of the credit risk associated with settling the liability. The period over which the Company discounts its contingent obligations is typically based on when the contingent payments would be triggered. These fair value measurements are based on significant inputs not observable in the market.

Divestitures

The Company records divestitures at fair value less cost to sell with any related gain or loss from sale recorded within Other income (expense) on the Company's consolidated statements of income. If the sale price includes contingent payments, these are fair valued using a probability weighted model. If the business divested is part of a reporting unit, goodwill from the reporting unit is reallocated based on the fair value of the divested business compared to the fair value of the reporting unit.

Goodwill and Intangible Assets

Goodwill represents the difference between the purchase price and the fair value of assets acquired and liabilities assumed when accounted for using the acquisition method of accounting. Goodwill is not amortized, but reviewed for impairment on an annual basis, during the fourth quarter, or more frequently if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of the Company's reporting units below their carrying amounts.

The Company has the option to first assess qualitative factors to determine whether it is necessary to perform the quantitative impairment test. If the Company elects this option and believes, as a result of the qualitative assessment, that it is more-likely-than-not that the carrying value of goodwill is not recoverable, the quantitative impairment test is required; otherwise, no further testing is required. Alternatively, the Company may elect to not first assess qualitative factors and immediately perform the quantitative impairment test. In the quantitative test, the Company compares the fair value of its reporting units to their carrying values. If the carrying values of the net assets assigned to the reporting units exceed the fair values of the reporting units an impairment loss equal to the difference would be recorded.

Definite-lived intangible assets, including client relationships, are amortized over the pattern in which the economic benefits of the intangible assets are utilized and reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets or asset group may not be recoverable. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset, which requires the use of customer attrition rates and other assumptions. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the definite-lived intangible assets, the definite-lived intangible assets are written-down to their fair values.

Valuation and Impairment of Long-Lived Assets

Long-lived assets to be held and used are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets or asset group may not be recoverable.

Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the assets, the assets are written-down to their fair values.

Long-lived assets to be disposed of are carried at fair value less costs to sell.

Venture Capital Investments

The Company invests in several venture capital funds that invest in start-up companies, primarily in the life sciences industry. The Company's ownership interest in these funds ranges from less than 1% to approximately 12%. The Company accounts for the investments in limited partnerships (LPs), which are variable interest entities, under the equity method of accounting. For publicly-held investments in the LPs, the Company adjusts for changes in fair market value based on reported share holdings at the end of each fiscal quarter. The Company is not the primary beneficiary because it has no power to direct the activities that most significantly affect the LPs' economic performance.

Under the equity method of accounting, the Company's portion of the investment gains and losses, as reported in the fund's financial statements on a quarterly lag each reporting period, is recorded in other (expense) income, net in the accompanying consolidated statements of income. In addition, the Company adjusts the carrying value of these investments to reflect its estimate of changes to fair value since the fund's financial statements are based on information from the fund's management team, market prices of known public holdings of the fund, and other information.

Strategic Equity Investments

The Company invests, with minority positions, directly in equity of predominantly privately-held companies that are reported either at fair value or under the equity method of accounting, as appropriate. Equity investments that do not have readily determinable fair values are generally recorded at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same investee. Gains and losses from strategic equity investments are recorded in Other (expense) income, net in the accompanying consolidated statements of income.

Derivative Contracts

The Company is exposed to certain risks relating to its ongoing business operations including changes to interest rates and currency exchange rates. The company uses derivative instruments primarily to manage currency exchange and interest rate risks. The Company recognizes derivative instruments as either assets or liabilities and measures those instruments at fair value. If a derivative is a hedge, depending on the nature of the hedge, changes in the fair value of the derivative are either offset against the change in fair value of the hedged item through earnings or recognized in other comprehensive items until the hedged item is recognized in earnings. Derivatives that are not designated as hedges are recorded at fair value through earnings.

For derivative instruments that are designated and qualify as a cash flow hedge, the gain or loss on the derivative is reported as a component of other comprehensive items and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings and is presented in the same income statement line item as the earnings effect of the hedged item. The Company uses an interest rate swap to manage interest rate fluctuation related to floating rate borrowings under the Credit Facility.

The Company uses short-term forward currency exchange contracts primarily to hedge certain balance sheet and operational exposures resulting from changes in currency exchange rates, predominantly intercompany loans. The currency-exchange contracts principally hedge transactions denominated in Canadian dollars and euros. The company does not hold or engage in transactions involving derivative instruments for purposes other than risk management.

Life Insurance Contracts

Investments in life insurance contracts are recorded at cash surrender value. The initial investment is remeasured based on fair value of underlying investments or contractual value each reporting period. Gains and losses from life insurance contracts are recorded in Other income (expense), net in the accompanying consolidated statements of income. Investments in and redemptions of these life insurance contracts are reported as cash flows from investing activities in the consolidated statement of cash flows. The Company held 44 contracts at December 31, 2022 with a face value of \$74.5 million and 45 contracts with a face value of \$89.8 million at December 25, 2021.

Leases

At inception of a contract, the Company determines if a contract meets the definition of a lease. A lease is a contract, or part of a contract, that conveys the right to control the use of identified property, plant, or equipment (an identified asset) for a period of time in exchange for consideration. The Company determines if the contract conveys the right to control the use of an identified asset for a period of time. The Company assesses throughout the period of use whether the Company has both of the following: (1) the right to obtain substantially all of the economic benefits from use of the identified asset, and (2) the right to direct the use of the identified asset. This determination is reassessed if the terms of the contract are changed. Leases are classified as operating or finance leases based on the terms of the lease agreement and certain characteristics of the identified asset. Right-of-use assets and lease liabilities are recognized at lease commencement date based on the present value of the minimum future lease payments.

The Company leases laboratory, production, and office space (real estate), as well as land, vehicles and certain equipment under non-cancellable operating and finance leases. The carrying value of the Company's right-of-use lease assets is substantially concentrated in its real estate leases, while the volume of lease agreements is primarily concentrated in vehicles and equipment leases. The Company's policy is to not record leases with an original term of twelve months or less on the consolidated balance sheets. The Company recognizes lease expense for these short-term leases on a straight-line basis over the lease term.

Certain lease agreements include rental payments that are adjusted periodically for inflation or other variables. In addition to rent, the leases may require the Company to pay additional amounts for taxes, insurance, maintenance and other expenses, which are generally referred to as non-lease components. Such adjustments to rental payments and variable non-lease components are treated as variable lease payments and recognized in the period in which the obligation for these payments was incurred. Variable lease components and variable non-lease components are not measured as part of the right-of-use asset and liability. Only when lease components and their associated non-lease components are fixed are they accounted for as a single lease component and are recognized as part of a right-of-use asset and liability. Total contract consideration is allocated to the combined fixed lease and non-lease component. This policy election applies consistently to all asset classes under lease agreements.

Most real estate leases contain clauses for renewal at the Company's option with renewal terms that generally extend the lease term from 1 to 5 years. Certain lease agreements contain options to purchase the leased property and options to terminate the lease. Payments to be made in option periods are recognized as part of the right-of-use lease assets and lease liabilities when it is reasonably certain that the option to extend the lease will be exercised or the option to terminate the lease will not be exercised, or is not at the Company's option. The Company determines whether the reasonably certain threshold is met by considering contract-, asset-, market-, and entity-based factors.

A portfolio approach is applied to certain lease contracts with similar characteristics. The Company's lease agreements do not contain any significant residual value guarantees or material restrictive covenants imposed by the leases.

The Company subleases a limited number of lease arrangements. Sublease activity is not material to the consolidated financial statements.

Stock-Based Compensation

The Company grants stock options, restricted stock units (RSUs), and performance share units (PSUs) to employees and stock options, and RSUs to non-employee directors under stock-based compensation plans. Stock-based compensation is recognized as an expense in the consolidated statements of income based on the grant date fair value, adjusted for forfeitures when they occur, over the requisite service period.

For stock options and RSUs that vest based on service conditions, the Company uses the straight-line method to allocate compensation expense to reporting periods. Where awards are made with non-substantive vesting periods and a portion of the award continues to vest after the employee's eligible retirement, the Company recognizes expense based on the period from the grant date to the date on which the employee is retirement eligible. The Company records the expense for PSU grants subject to performance and/or market conditions using the accelerated attribution method over the remaining service period when management determines that achievement of the performance-based milestone is probable.

The fair value of stock options granted is calculated using the Black-Scholes option-pricing model and the fair value of PSUs is estimated using a lattice model with a Monte Carlo simulation, both of which require the use of subjective assumptions including volatility and expected term, among others. The expected volatility assumption is typically determined using the historical volatility of the Company's common stock over the expected life of the stock-based award. The expected term is determined using historical option exercise activity. The fair value of RSUs is based on the market value of the Company's common stock on the date of grant.

Revenue Recognition

Revenue is recognized when, or as, obligations under the terms of a contract are satisfied, which occurs when control of the promised products or services is transferred to customers. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products or services to a customer ("transaction price").

To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing the amount to which the Company expects to be entitled. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the Company's anticipated performance and all information (historical, current and forecasted) that is reasonably available. Sales, value add, and other taxes collected on behalf of third parties are excluded from revenue.

When determining the transaction price of a contract, an adjustment is made if payment from a customer occurs either significantly before or significantly after performance, resulting in a significant financing component. Generally, the Company does not extend payment terms beyond one year. Applying the practical expedient, the Company does not assess whether a significant financing component exists if the period between when the Company performs its obligations under the contract and when the customer pays is one year or less. The Company's contracts do not generally contain significant financing components.

Contracts with customers may contain multiple performance obligations. For such arrangements, the transaction price is allocated to each performance obligation based on the estimated relative standalone selling prices of the promised products or services underlying each performance obligation. The Company determines standalone selling prices based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations.

As part of the Company's service offerings, the Company has identified performance obligations related to leasing Company owned assets. In certain arrangements, customers obtain substantially all of the economic benefits of the identified assets, which may include manufacturing suites and related equipment, and have the right to direct the assets' use over the term of the contract. The associated revenue is recognized on a straight-line basis over the term of the lease, which is generally less than one year, and recorded within service revenue. Due to the nature of these arrangements and timing of the contractual lease term, the remaining revenue to be recognized related to these lease performance obligations is not material to the condensed consolidated financial statements.

Contracts are often modified to account for changes in contract specifications and requirements. Contract modifications exist when the modification either creates new, or changes existing, enforceable rights and obligations. Generally, when contract modifications create new performance obligations, the modification is considered to be a separate contract and revenue is recognized prospectively. When contract modifications change existing performance obligations, the impact on the existing transaction price and measure of progress for the performance obligation to which it relates is generally recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) on a cumulative catch-up basis.

Product revenue is generally recognized when the customer obtains control of the Company's product, which occurs at a point in time, and may be upon shipment or upon delivery based on the contractual shipping terms of a contract. Service revenue is generally recognized over time as the services are delivered to the customer based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. Depending on which better depicts the transfer of value to the customer, the Company generally measures its progress using either cost-to-cost (input method) or right-to-invoice (output method). The Company uses the cost-to-cost measure of progress when it best depicts the transfer of value to the customer which occurs as the Company incurs costs on its contract, generally related to fixed fee service contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. The costs calculation includes variables such as labor hours, allocation of overhead costs, research model costs, and subcontractor costs. Revenue is recorded proportionally as costs are incurred. The right-to-invoice measure of progress is generally related to rate per unit contracts, as the extent of progress towards completion is measured based on discrete service or time-based increments, such as samples tested or labor hours incurred. Revenue is recorded in the amount invoiced since that amount corresponds directly to the value of the Company's performance to date.

The timing of revenue recognition, billings and cash collections results in billed receivables (client receivables), contract assets (unbilled revenue), and contract liabilities (current and long-term deferred revenue and customer contract deposits) on the condensed consolidated balance sheets. The Company's payment terms are generally 30 days in the United States and consistent with prevailing practice in international markets. A contract asset is recorded when a right to consideration in exchange for goods or services transferred to a customer is conditioned other than the passage of time. Client receivables are recorded separately from contract assets since only the passage of time is required before consideration is due. A contract liability is recorded when consideration is received, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a contract. Contract liabilities are recognized as revenue after control of the products or services is transferred to the customer and all revenue recognition criteria have been met. Cumulative catch-up adjustments to revenue are periodically recorded that affect the corresponding contract asset or contract liability, including adjustments arising from a change in the measure of progress, a change in an estimate of the transaction price (including any changes in the assessment of whether an estimate of variable consideration), or a contract modification.

Income Taxes

The provision for income taxes includes federal, state, local and foreign taxes. Income taxes are accounted for under the liability method. Deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary

differences between the financial statements carrying amounts and their respective tax basis. The Company measures deferred tax assets and liabilities using the enacted tax rates in effect when the temporary differences are expected to be settled. The Company evaluates the realizability of its deferred tax assets and establishes a valuation allowance when it is more likely than not that all or a portion of deferred tax assets will not be realized.

The Company accounts for uncertain tax positions using a “more-likely-than-not” threshold for recognizing and resolving uncertain tax positions. The Company evaluates uncertain tax positions on a quarterly basis and considers various factors, including, but not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, the effective settlement of matters subject to audit, information obtained during in-process audit activities and changes in facts or circumstances related to a tax position. The Company also accrues for potential interest and penalties related to unrecognized tax benefits in income tax expense.

Foreign Currency Contracts

Foreign currency contracts are recorded at fair value in the Company’s consolidated balance sheets and are not designated as hedging instruments. Any gains or losses on forward contracts associated with intercompany loans are recognized immediately in Other (expense) income, net and are largely offset by the remeasurement of the underlying intercompany loan. Any gains or losses on forward contracts associated with the Company’s U.S. dollar denominated loan borrowed by a non-U.S. entity under the Company’s Credit Facility are recognized immediately in Interest expense. Gains or losses incurred on the remeasurement of the Company’s U.S. dollar denominated loan borrowed by a non-U.S. entity with a different functional currency is recorded in Other (expense) income, net.

Translation of Foreign Currencies

For the Company’s subsidiaries that transact in a functional currency other than the U.S. dollar, assets and liabilities are translated at current rates of exchange as of the balance sheet date. Income and expense items are translated at the average foreign exchange rates for the period. Adjustments resulting from the translation of the financial statements of the Company’s foreign operations into U.S. dollars are excluded from the determination of net income and are recorded in accumulated other comprehensive loss, a separate component of equity.

Pension and Other Post-Retirement Benefit Plans

The Company recognizes the funded status of its defined benefit pension and other post-retirement benefit plans as an asset or liability. This amount is defined as the difference between the fair value of plan assets and the benefit obligation. The Company measures plan assets and benefit obligations as of its fiscal year end.

The key assumptions used to calculate benefit obligations and related pension costs include expected long-term rate of return on plan assets, withdrawal and mortality rates, expected rate of increase in employee compensation levels and a discount rate. Assumptions are determined based on the Company’s data and appropriate market indicators, and evaluated each year as of the plan’s measurement date.

The expected long-term rate of return on plan assets reflects the average rate of earnings expected on the funds invested, or to be invested, to provide for the benefits included in the projected benefit obligations. In determining the expected long-term rate of return on plan assets, the Company considers the relative weighting of plan assets, the historical performance of total plan assets and individual asset classes and economic and other indicators of future performance.

The rate of compensation increase reflects the expected annual salary increases for the plan participants based on historical experience and the current employee compensation strategy.

The Company is required to recognize as a component of other comprehensive income, net of tax, the actuarial gains or losses and prior service costs or credits that arise but were not previously required to be recognized as components of net periodic benefit cost. Other comprehensive income is adjusted as these amounts are later recognized in income as components of net periodic benefit cost.

The Company records the service cost component of the net periodic benefit cost within Cost of services provided and Selling, general, and administrative expenses and all other components of net periodic benefit cost within Other (expense) income, net in the consolidated statements of income.

The Company recognizes pension settlement gains or losses in the period when all of the following settlement criteria are met: there is an irrevocable action, the Company is relieved of primary responsibility for a benefit obligation, and significant risks related to the obligation and the assets used to effect the settlement are eliminated.

Earnings Per Share

Basic earnings per share is calculated by dividing net income attributable to common shareholders by the weighted-average number of common shares outstanding during the period. Except where the result would be anti-dilutive to income from continuing operations, diluted earnings per share is computed using the treasury stock method, assuming the exercise of stock options and the vesting of RSUs, or PSUs, as well as their related income tax effects.

Treasury Shares

The Company periodically retires treasury shares acquired through share repurchases and returns those shares to the status of authorized but unissued. The Company accounts for treasury stock transactions under the cost method. For each reacquisition of common stock, the number of shares and the acquisition price for those shares is added to the existing treasury stock count and total value. Thus, the average cost per share is re-averaged each time shares are acquired. When treasury shares are retired, the Company allocates the excess of the repurchase price over the par value of shares acquired to both retained earnings and additional paid-in-capital. The portion allocated to additional paid-in-capital is determined by applying a percentage, determined by dividing the number of shares to be retired by the number of shares issued, to the balance of additional paid-in-capital as of the retirement date.

2. ACQUISITIONS AND DIVESTITURES

Fiscal 2023 Acquisition

SAMDI Tech, Inc.

On January 27, 2023, the Company acquired SAMDI Tech, Inc., (SAMDI), a leading provider of high-quality, label-free high-throughput screening (HTS) solutions for drug discovery research. The acquisition of SAMDI will provide clients with seamless access to the premier, label-free HTS MS platform and create a comprehensive, library of drug discovery solutions. The preliminary purchase price of SAMDI was \$60 million, inclusive of a 20% strategic equity interest previously owned by the Company. The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility. This business will be reported as part of the Company's DSA reportable segment. Due to the limited time between the acquisition date and the filing of this Annual Report on Form 10-K, it is not practicable for the Company to disclose the preliminary allocation of the purchase price to assets acquired and liabilities assumed.

Fiscal 2022 Acquisition

Explora BioLabs Holdings, Inc.

On April 5, 2022, the Company acquired Explora BioLabs Holdings, Inc. (Explora BioLabs), a provider of contract vivarium research services, providing biopharmaceutical clients with turnkey *in vivo* vivarium facilities, management and related services to efficiently conduct their early-stage research activities. The acquisition of Explora BioLabs complements the Company's existing Insourcing Solutions business, specifically the CRADL™ (Charles River Accelerator and Development Lab) footprint, and offers incremental opportunities to partner with an emerging client base, many of which are engaged in cell and gene therapy development. The purchase price of Explora BioLabs was \$284.5 million, net of \$6.6 million in cash. The acquisition was funded through proceeds from the Company's Credit Facility. This business is reported as part of the Company's RMS reportable segment.

Fiscal 2021 Acquisitions

Vigene Biosciences, Inc.

On June 28, 2021, the Company acquired Vigene Biosciences, Inc. (Vigene), a gene therapy CDMO, providing viral vector-based gene delivery solutions. The acquisition enables clients to seamlessly conduct analytical testing, process development, and manufacturing for advanced modalities with the same scientific partner. The purchase price of Vigene was \$323.9 million, net of \$2.7 million in cash. Included in the purchase price are contingent payments fair valued at \$34.5 million, which was estimated using a Monte Carlo Simulation model (the maximum contingent contractual payments are up to \$57.5 million based on future performance). The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility. This business is reported as part of the Company's Manufacturing reportable segment. As of December 31, 2022, the fair value of the contingent consideration was zero as certain financial targets have not and are not expected to be

achieved.

Retrogenix Limited

On March 30, 2021, the Company acquired Retrogenix Limited (Retrogenix), an outsourced discovery services provider specializing in bioanalytical services utilizing its proprietary cell microarray technology. The acquisition of Retrogenix enhances the Company's scientific expertise with additional large molecule and cell therapy discovery capabilities. The purchase price of Retrogenix was \$53.9 million, net of \$8.5 million in cash. Included in the purchase price are contingent payments fair valued at \$6.9 million, which is the maximum potential payout, and was based on a probability-weighted approach. The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility. This business is reported as part of the Company's DSA reportable segment.

Cognate BioServices, Inc.

On March 29, 2021, the Company acquired Cognate BioServices, Inc. (Cognate), a cell and gene therapy CDMO offering comprehensive manufacturing solutions for cell therapies, as well as for the production of plasmid DNA and other inputs in the CDMO value chain. The acquisition of Cognate establishes the Company as a scientific partner for cell and gene therapy development, testing, and manufacturing, providing clients with an integrated solution from basic research and discovery through cGMP production. The purchase price of Cognate was \$877.9 million, net of \$70.5 million in cash and includes \$15.7 million of consideration for an approximate 2% ownership interest not initially acquired, but redeemed in April 2022 with the ultimate payout tied to performance in 2021. The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility and senior notes (Senior Notes) issued in fiscal 2021. This business is reported as part of the Company's Manufacturing reportable segment.

Distributed Bio, Inc.

On December 31, 2020, the Company acquired Distributed Bio, Inc. (Distributed Bio), a next-generation antibody discovery company with technologies specializing in enhancing the probability of success for delivering high-quality, readily formattable antibody fragments to support antibody and cell and gene therapy candidates to biopharmaceutical clients. The acquisition of Distributed Bio expands the Company's capabilities with an innovative, large-molecule discovery platform, and creates an integrated, end-to-end platform for therapeutic antibody and cell and gene therapy discovery and development. The purchase price of Distributed Bio was \$97.0 million, net of \$0.8 million in cash. The total consideration includes \$80.8 million cash paid, settlement of \$3.0 million in convertible promissory notes previously issued by the Company during prior fiscal years, and \$14.1 million of contingent consideration, which was estimated using a Monte Carlo Simulation model (the maximum contingent contractual payments are up to \$21.0 million based on future performance and milestone achievements over a one-year period). The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility. This business is reported as part of the Company's DSA reportable segment. During fiscal year 2022, \$7.0 million of contingent consideration was paid as certain operational milestones were achieved. As of December 31, 2022, other financial targets associated with the contingent consideration were not met and the fair value of the remaining contingent consideration is zero.

Other Acquisition

On March 3, 2021, the Company acquired certain assets from a distributor that supports the Company's DSA reportable segment. The purchase price was \$35.4 million, which includes \$19.5 million in cash paid (\$5.5 million of which was paid in fiscal 2020), and \$15.9 million of contingent consideration, which was estimated using a Monte Carlo Simulation model (the maximum contingent contractual payments are up to \$17.5 million based on future performance over a three-year period). The fair value of the net assets acquired included \$17.3 million of goodwill, \$15.2 million attributed to supplier relationships (to be amortized over a 4-year period), and \$3.0 million of property, plant, and equipment. The business is reported as part of the Company's DSA reportable segment. As of December 31, 2022, the fair value of the contingent consideration was zero as certain operational targets were not achieved.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Purchase price information

The purchase price allocation for acquisitions during fiscal years 2022 and 2021 was as follows:

	Explora BioLabs ⁽¹⁾	Vigene	Retrogenix	Cognate	Distributed Bio
	April 5, 2022	June 28, 2021	March 30, 2021	March 29, 2021	December 31, 2020
	(in thousands)				
Trade receivables	\$ 7,679	\$ 3,548	\$ 2,266	\$ 18,566	\$ 2,722
Other current assets (excluding cash)	1,067	1,657	209	14,128	221
Property, plant and equipment	37,369	7,649	400	52,082	2,382
Operating lease right-of-use asset, net	48,613	22,507	1,385	34,349	1,586
Goodwill ⁽²⁾	215,752	239,681	34,489	611,555	71,585
Definite-lived intangible assets	70,100	93,900	22,126	270,900	24,540
Other long-term assets	556	694	—	6,098	469
Deferred revenue	(3,507)	(4,260)	(434)	(20,539)	(1,319)
Other current liabilities ⁽³⁾	(15,507)	(6,319)	(1,141)	(45,388)	(1,504)
Operating lease right-of-use liabilities (Long-term)	(57,193)	(21,220)	(1,205)	(31,383)	(1,123)
Deferred tax liabilities	(18,601)	(13,958)	(4,174)	(32,503)	(2,529)
Other long-term liabilities	(1,807)	—	—	—	—
Total purchase price allocation	\$ 284,521	\$ 323,879	\$ 53,921	\$ 877,865	\$ 97,030

⁽¹⁾ Purchase price allocation is preliminary and subject to change as additional information becomes available concerning the fair value and tax basis of the assets acquired and liabilities assumed, including certain contracts and obligations. Any additional adjustments to the purchase price allocation will be made as soon as practicable but no later than one year from the date of acquisition.

⁽²⁾ The goodwill resulting from these transactions is primarily attributable to the potential growth of the Company's segments from new customers introduced to the acquired businesses and the assembled workforce of the acquirees, thus is not deductible for tax purposes. Explora BioLabs had \$5.0 million of goodwill due to a prior asset acquisition that is not deductible for tax purposes.

⁽³⁾ In connection with its acquisitions of businesses, the Company routinely records liabilities related to indirect state and local taxes for preacquisition periods when such liabilities are estimable and deemed probable. The Company may or may not be indemnified for such indirect tax liabilities under terms of the acquisitions. As these indirect tax contingencies are resolved, actual obligations, and any indemnifications, may differ from the recorded amounts and any differences are reflected in reported results in the period in which these are resolved. Specifically for Cognate, as of March 29, 2021, the Company recorded an estimated liability of \$17 million pertaining to indirect state sales taxes. During fiscal year 2022, the Company received a favorable ruling from the applicable state in which the indirect state sales tax liability arose and, accordingly, this liability was reduced in full, resulting in a gain recorded through selling, general and administrative expenses in the period.

The definite-lived intangible assets acquired during fiscal years 2022 and 2021 were as follows:

	Explora BioLabs	Vigene	Retrogenix	Cognate	Distributed Bio
Definite-Lived Intangible Assets	(in thousands)				
Client relationships	\$ 64,000	\$ 87,500	\$ 17,340	\$ 257,200	\$ 16,080
Other intangible assets	6,100	6,400	4,786	13,700	8,460
Total definite-lived intangible assets	\$ 70,100	\$ 93,900	\$ 22,126	\$ 270,900	\$ 24,540
Weighted Average Amortization Life	(in years)				
Client relationships	13	12	13	13	9
Other intangible assets	4	2	3	2	4
Total definite-lived intangible assets	12	11	11	13	7

Fiscal 2020 Acquisitions

Cellero, LLC

On August 6, 2020, the Company acquired Cellero, LLC (Cellero), a provider of cellular products for cell therapy developers and manufacturers worldwide. The addition of Cellero enhances the Company's unique, comprehensive solutions for the high-growth cell therapy market, strengthening the ability to help accelerate clients' critical programs from basic research and proof-of-concept to regulatory approval and commercialization. It also expands the Company's access to high-quality, human-derived biomaterials with Cellero's donor sites in the United States. The purchase price for Cellero was \$36.9 million, net of \$0.5

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

million in cash. The acquisition was funded through available cash. This business is reported as part of the Company's RMS reportable segment.

HemaCare

On January 3, 2020, the Company acquired HemaCare Corporation (HemaCare), a business specializing in the production of human-derived cellular products for the cell therapy market. The acquisition of HemaCare expands the Company's comprehensive portfolio of early-stage research and manufacturing support solutions to encompass the production and customization of high-quality, human derived cellular products to better support clients' cell therapy programs. The purchase price of HemaCare was \$376.7 million, net of \$3.1 million in cash. The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility. This business is reported as part of the Company's RMS reportable segment.

The purchase price allocation for acquisitions during fiscal year 2020 was as follows:

	Cellero, LLC	HemaCare Corporation	
	August 6, 2020	January 3, 2020	
	(in thousands)		
Trade receivables	\$ 1,500	\$	6,451
Inventories	551		8,468
Other current assets (excluding cash)	182		3,494
Property, plant and equipment	1,648		10,033
Goodwill ⁽¹⁾	19,457		210,196
Definite-lived intangible assets	16,230		183,540
Other long-term assets	849		5,920
Other current liabilities	(1,360)		(5,188)
Deferred tax liabilities	(1,467)		(38,529)
Other long-term liabilities	(740)		(7,664)
Total purchase price allocation	\$ 36,850	\$	376,721

⁽¹⁾ The goodwill resulting from the Cellero transaction, \$10.8 million of which is deductible for tax purposes due to a prior asset acquisition, is primarily attributable to the potential growth of the Company's RMS business from new customers introduced to Cellero and the assembled workforce of the acquired business. The goodwill resulting from the HemaCare transaction is primarily attributable to the potential growth of the Company's segments from new customers introduced to the acquired business and the assembled workforce of the acquired business, thus is not deductible for tax purposes.

The definite-lived intangible assets acquired during fiscal year 2020 were as follows:

	Cellero, LLC	HemaCare Corporation	
	(in thousands)		
Definite-Lived Intangible Assets			
Client relationships	\$ 14,740	\$	170,390
Trade name	—		7,330
Other intangible assets	1,490		5,820
Total definite-lived intangible assets	\$ 16,230	\$	183,540
Weighted Average Amortization Life	(in years)		
Client relationships	13		19
Trade name	—		10
Other intangible assets	3		3
Total definite-lived intangible assets	12		18

The transaction and integration costs incurred for fiscal years 2022, 2021 and 2020 were as follows:

	2022	2021		2020
	(in thousands)			
Transaction and Integration Costs				
Selling, general and administrative expenses	\$ 8,740	\$ 39,099	\$	10,014

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Pro forma information

The following selected unaudited pro forma consolidated results of operations are presented as if the Cognate and Vigene acquisitions had occurred as of the beginning of the period immediately preceding the period of acquisition, which is December 29, 2019, after giving effect to certain adjustments. For fiscal year 2021 and 2020, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of \$24.5 million and \$24.2 million, additional interest expense on borrowing of \$5.6 million and \$10.4 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments. All other acquisitions have not been included because that information is not material to the consolidated financial statements.

	Fiscal Year	
	2021	2020
	(in thousands)	
	(unaudited)	
Revenue	\$ 3,583,646	\$ 3,068,161
Net income attributable to common shareholders	376,152	347,873

These unaudited pro forma results of operations have been prepared for comparative purposes only, and they do not purport to be indicative of the results of operations that actually would have resulted had the acquisitions occurred on the dates indicated or that may result in the future. No effect has been given for synergies, if any, that may be realized through these acquisitions.

Divestitures

The Company routinely evaluates the strategic fit and fundamental performance of its global businesses, divesting operations that do not meet key business criteria. As part of this ongoing assessment, the Company determined that certain capital could be better deployed in other long-term growth opportunities.

Avian Vaccine Services

On December 20, 2022, the Company sold its Avian Vaccine Services business (Avian) to a private investor group for a preliminary purchase price of \$169 million in cash, subject to certain customary closing adjustments. The Company may also earn up to \$30 million of contingent payments, which are tied to certain annual results of the Avian business from January 2024 through December 2027. The contingent payments have been fair valued at approximately \$10 million using a discounted probability weighted model. The Avian business was reported in the Company's Manufacturing reportable segment. During the fiscal year 2022, the Company recorded a gain on the divestiture of Avian of \$123.4 million within Other income (expense) on the Company's consolidated statements of income.

RMS Japan

On October 12, 2021, the Company sold its RMS Japan operations to The Jackson Laboratory for a purchase price of \$70.9 million, which included \$7.9 million in cash, \$3.8 million pension over funding, and certain post-closing adjustments. During the three months ended December 25, 2021, the Company recorded a gain on the divestiture of the RMS Japan business of \$20.0 million, net of costs to sell, a currency translation adjustment, and other adjustments related to certain ongoing arrangements with the buyer, which was included in Other income (expense), net within the Company's consolidated statements of income. The RMS Japan business was reported in the Company's RMS reportable segment.

CDMO Sweden

On October 12, 2021, the Company sold its gene therapy CDMO site in Sweden to a private investor group for a purchase price of \$59.6 million, net of \$0.2 million in cash and other post-closing adjustments that may impact the purchase price. Included in the purchase price are contingent payments fair valued at \$15.3 million, which were estimated using a probability weighted model (the maximum contingent contractual payments are up to \$25.0 million based on future performance), as well as a purchase obligation of approximately \$10.0 million between the parties. During fiscal year 2022 the fair value of the contingent payments receivable was reduced from \$15.3 million to \$7.5 million as certain financial targets are not expected to be achieved. The CDMO Sweden business was acquired in March 2021 as part of the acquisition of Cognate and was reported in the Company's Manufacturing reportable segment.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The carrying amounts of the major classes of assets and liabilities associated with the divestitures of the businesses were as follows:

	December 19, 2022		October 12, 2021	
	Avian	RMS Japan		CDMO Sweden
	(in thousands)			
Assets				
Current assets	\$ 30,545	\$ 26,524	\$ 8,187	
Property, plant, and equipment, net	24,602	17,379	14,339	
Operating lease right-of-use assets, net	611	—	19,733	
Goodwill	3,168	4,129	27,764	
Client relationships, net	1,629	—	14,089	
Other assets	10	3,695	—	
Total assets	\$ 60,565	\$ 51,727	\$ 84,112	
Liabilities				
Current liabilities	\$ 8,139	\$ 8,705	\$ 6,386	
Operating lease right-of-use liabilities	331	—	18,221	
Long-term liabilities	—	94	—	
Total liabilities	\$ 8,470	\$ 8,799	\$ 24,607	

3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Disaggregation of Revenue

The following table disaggregates the Company's revenue by major business line and timing of transfer of products or services:

Timing of Revenue Recognition:	2022	2021	2020
	(in thousands)		
RMS			
Services and products transferred over time	\$ 340,708	\$ 263,659	\$ 240,480
Services and products transferred at a point in time	398,467	426,778	330,672
Total RMS revenue	739,175	690,437	571,152
DSA			
Services and products transferred over time	2,440,646	2,103,415	1,836,519
Services and products transferred at a point in time	6,670	3,816	909
Total DSA revenue	2,447,316	2,107,231	1,837,428
Manufacturing			
Services and products transferred over time	371,500	335,745	174,254
Services and products transferred at a point in time	418,069	406,747	341,099
Total Manufacturing revenue	789,569	742,492	515,353
Total revenue	\$ 3,976,060	\$ 3,540,160	\$ 2,923,933

Contract Balances from Contracts with Customers

The following table provides information about client receivables, contract assets, and contract liabilities from contracts with customers:

	December 31, 2022	December 25, 2021
	(in thousands)	
Assets from contracts with customers		
Client receivables	\$ 559,410	\$ 489,452
Unbilled revenue	204,258	160,609
Total	763,668	650,061
Less: Allowance for credit losses	(11,278)	(7,180)
Trade receivables and contract assets, net	\$ 752,390	\$ 642,881
Liabilities from contracts with customers		
Current deferred revenue	264,259	219,703
Long term deferred revenue (included in Other long-term liabilities)	25,795	20,578
Customer contract deposits (included in Other current-liabilities)	91,640	59,512

The Company recognized substantially all of the current contract assets and liabilities balances at December 25, 2021 and December 26, 2020 in revenues during fiscal years 2022 and 2021, respectively.

When the Company does not have the unconditional right to advanced billings, both advanced client payments and unpaid advanced client billings are excluded from deferred revenue, with the advanced billings also being excluded from client receivables. The Company excluded approximately \$54 million and \$36 million of unpaid advanced client billings from both client receivables and deferred revenue in the accompanying consolidated balance sheets as of December 31, 2022 and December 25, 2021, respectively. Net provisions of \$6.7 million, \$1.7 million, and \$6.4 million were recorded to the allowance for credit losses in fiscal years 2022, 2021, and 2020, respectively.

Transaction Price Allocated to Future Performance Obligations

The Company discloses the aggregate amount of transaction price that is allocated to performance obligations that have not yet been satisfied as of December 31, 2022. Excluded from the disclosure is the value of unsatisfied performance obligations for contracts with an original expected length of one year or less, contracts for which revenue is recognized at the amount to which the Company has the right to invoice for services performed and service revenue recognized in accordance with ASC 842, "Leases". The aggregate amount of transaction price allocated to the remaining performance obligations for all open customer contracts as of December 31, 2022 was \$1,203.1 million. The Company will recognize revenues for these performance obligations as they are satisfied, approximately 50% of which is expected to occur within the next twelve months and the remainder recognized thereafter during the remaining contract term.

Other Performance Obligations

As part of the Company's service offerings, the Company has identified performance obligations related to leasing Company owned assets. In certain arrangements, customers obtain substantially all of the economic benefits of the identified assets, which may include manufacturing suites and related equipment, and have the right to direct the assets' use over the term of the contract. The associated revenue is recognized on a straight-line basis over the term of the lease, which is generally less than one year.

	2022	2021	2020	
	(in thousands)			Affected Line Item in the Consolidated Statements of Income
Lease revenue	\$ 60,118	\$ 18,118	\$ —	Service revenue

4. SEGMENT AND GEOGRAPHIC INFORMATION

The Company's three reportable segments are Research Models and Services (RMS), Discovery and Safety Assessment (DSA), and Manufacturing Solutions (Manufacturing). Asset information on a reportable segment basis is not disclosed as this information is not separately identified and internally reported to the Company's Chief Operating Decision Maker.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table presents revenue and other financial information by reportable segment:

	2022	2021	2020
	(in thousands)		
RMS			
Revenue	\$ 739,175	\$ 690,437	\$ 571,152
Operating income	160,410	166,814	102,706
Depreciation and amortization	49,274	39,123	37,080
Capital expenditures	44,136	61,188	29,487
DSA			
Revenue	\$ 2,447,316	\$ 2,107,231	\$ 1,837,428
Operating income	532,889	406,978	325,959
Depreciation and amortization	179,465	177,254	168,922
Capital expenditures	189,563	101,477	105,653
Manufacturing			
Revenue	\$ 789,569	\$ 742,492	\$ 515,353
Operating income	167,084	246,390	181,494
Depreciation and amortization	72,950	46,195	25,904
Capital expenditures	87,084	58,877	26,287
Unallocated corporate			
Operating income ⁽¹⁾	\$ (209,408)	\$ (230,320)	\$ (177,430)
Depreciation and amortization	2,181	2,968	3,018
Capital expenditures	3,950	7,230	5,133
Consolidated			
Revenue	\$ 3,976,060	\$ 3,540,160	\$ 2,923,933
Operating income	650,975	589,862	432,729
Depreciation and amortization	303,870	265,540	234,924
Capital expenditures	324,733	228,772	166,560

⁽¹⁾ Operating income for unallocated corporate consists of costs associated with departments such as senior executives, corporate accounting, legal, tax, human resources, treasury, and investor relations.

Revenue and long-lived assets by geographic area are as follows:

	U.S.	Europe	Canada	Asia Pacific	Other	Consolidated
	(in thousands)					
2022						
Revenue	\$ 2,342,158	\$ 1,032,125	\$ 398,982	\$ 192,837	\$ 9,958	\$ 3,976,060
Long-lived assets	896,235	349,361	135,300	82,778	1,981	1,465,655
2021						
Revenue	\$ 1,934,404	\$ 1,036,465	\$ 339,098	\$ 222,902	\$ 7,291	\$ 3,540,160
Long-lived assets	755,400	323,405	145,274	64,864	2,125	1,291,068
2020						
Revenue	\$ 1,627,149	\$ 829,312	\$ 306,259	\$ 155,086	\$ 6,127	\$ 2,923,933
Long-lived assets	627,871	286,229	145,410	62,931	1,917	1,124,358

Included in the Other category above are operations located in Brazil and Israel. Revenue represents sales originating in entities physically located in the identified geographic area. Long-lived assets consist of property, plant, and equipment, net.

5. VENTURE CAPITAL AND STRATEGIC EQUITY INVESTMENTS

Venture capital investments are summarized below:

	December 31, 2022	December 25, 2021	December 26, 2020
	(in thousands)		
Beginning balance	\$ 149,640	\$ 197,100	\$ 108,983
Capital contributions	14,485	18,023	14,456
Distributions	(9,861)	(40,205)	(27,586)
Gain (loss)	(24,398)	(23,201)	101,288
Foreign currency translation	(854)	(2,077)	(41)
Ending balance	<u>\$ 129,012</u>	<u>\$ 149,640</u>	<u>\$ 197,100</u>

The Company also invests, with minority positions, directly in equity of predominantly privately-held companies. Strategic investments are summarized below:

	December 31, 2022	December 25, 2021	December 26, 2020
	(in thousands)		
Beginning balance	\$ 51,712	\$ 24,704	\$ 13,996
Acquired investments	142,477	35,540	10,748
Distributions	(2,732)	(789)	—
Gain (loss)	(2,377)	(7,219)	(427)
Foreign currency translation	(6,490)	(524)	387
Ending balance	<u>\$ 182,590</u>	<u>\$ 51,712</u>	<u>\$ 24,704</u>

In April 2022, the Company acquired a 49% equity interest in a supplier supporting the DSA reportable segment (the Investee) for \$90.0 million up front and an additional future contingent payment of up to \$5.0 million based upon the Investee's future performance. The total allocable basis of the investment exceeds the proportional interest in the Investee's underlying net assets by \$86.7 million, which has been allocated primarily to goodwill, intangible assets (client relationships and backlog), and deferred tax liabilities in the amount of \$26.2 million, \$71.2 million, and \$10.7 million respectively.

6. FAIR VALUE

Assets and liabilities measured at fair value on a recurring basis are summarized below:

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Current assets measured at fair value:				
Cash equivalents	\$ —	\$ 78	\$ —	\$ 78
Other assets:				
Life insurance policies	—	34,527	—	34,527
Total assets measured at fair value	<u>\$ —</u>	<u>\$ 34,605</u>	<u>\$ —</u>	<u>\$ 34,605</u>
Accrued liabilities measured at fair value:				
Contingent consideration	\$ —	\$ —	\$ 13,431	\$ 13,431
Other long-term liabilities measured at fair value:				
Interest rate swap	—	1,523	—	1,523
Total liabilities measured at fair value	<u>\$ —</u>	<u>\$ 1,523</u>	<u>\$ 13,431</u>	<u>\$ 14,954</u>

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	December 25, 2021			
	Level 1	Level 2	Level 3	Total
Current assets measured at fair value:	(in thousands)			
Cash equivalents	\$ —	\$ 893	\$ —	\$ 893
Other assets:				
Life insurance policies	—	42,918	—	42,918
Total assets measured at fair value	<u>\$ —</u>	<u>\$ 43,811</u>	<u>\$ —</u>	<u>\$ 43,811</u>
Accrued liabilities measured at fair value:				
Contingent consideration	\$ —	\$ —	\$ 11,794	\$ 11,794
Other long-term liabilities measured at fair value:				
Contingent consideration	—	—	25,450	25,450
Total liabilities measured at fair value	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 37,244</u>	<u>\$ 37,244</u>

During fiscal years 2022 and 2021, there were no transfers between fair value levels.

Contingent Consideration

The following table provides a rollforward of the contingent consideration related to the Company's acquisitions.

	Fiscal Year		
	2022	2021	2020
	(in thousands)		
Beginning balance	\$ 37,244	\$ 2,328	\$ 712
Additions	3,838	71,559	2,131
Payments	(11,476)	(2,889)	(230)
Total gains or losses (realized/unrealized):			
Adjustment of previously recorded contingent liability	(15,340)	(33,386)	(468)
Foreign currency translation	(835)	(368)	183
Ending balance	<u>\$ 13,431</u>	<u>\$ 37,244</u>	<u>\$ 2,328</u>

The Company estimates the fair value of contingent consideration obligations through valuation models, such as probability-weighted and option pricing models, that incorporate probability adjusted assumptions and simulations related to the achievement of the milestones and the likelihood of making related payments. The unobservable inputs used in the fair value measurements include the probabilities of successful achievement of certain financial targets, forecasted results or targets, volatility, and discount rates. The remaining maximum potential payments are approximately \$57 million, of which the value accrued as of December 31, 2022 is approximately \$13 million. The weighted average probability of achieving the maximum target is approximately 24%. The average volatility and weighted average cost of capital are approximately 40% and 16%, respectively.

Cash Flow Hedge

The Company is exposed to market fluctuations in interest rates as well as variability in foreign exchange rates. In November 2022, the Company entered into an interest rate swap with a notional amount of \$500 million to manage interest rate fluctuation related to floating rate borrowings under the Credit Facility, at a fixed rate of 4.700% making the total interest rate 5.825% at our current spread. As of December 31, 2022, the Company assessed the hedging relationship and determined it to be highly effective. As such, the net change in fair values of the derivative instruments was recorded in accumulated other comprehensive income.

Debt Instruments

The book value of the Company's term and revolving loans, which are variable rate loans carried at amortized cost, approximates the fair value based on current market pricing of similar debt. As the fair value is based on significant other observable inputs, including current interest and foreign currency exchange rates, it is deemed to be Level 2 within the fair value hierarchy.

The book value of the Company's Senior Notes are fixed rate obligations carried at amortized cost. Fair value is based on quoted market prices as well as borrowing rates available to the Company. As the fair value is based on significant other

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

observable outputs, it is deemed to be Level 2 within the fair value hierarchy. The book value and fair value of the Company's Senior Notes is summarized below:

	December 31, 2022		December 25, 2021	
	Book Value	Fair Value	Book Value	Fair Value
	(in thousands)			
4.25% Senior Notes due 2028	\$ 500,000	\$ 460,450	\$ 500,000	\$ 521,250
3.75% Senior Notes due 2029	500,000	442,200	500,000	506,700
4.00% Senior Notes due 2031	500,000	432,500	500,000	507,500

7. GOODWILL AND INTANGIBLE ASSETS

Goodwill

The following table provides a rollforward of the changes in the carrying amount of the Company's goodwill:

	RMS		DSA ⁽¹⁾		Manufacturing		Total	
	(in thousands)							
December 26, 2020	\$	287,759	\$	1,378,130	\$	143,279	\$	1,809,168
Acquisitions		—		123,091		851,828		974,919
Divestitures		(4,129)		—		(27,764)		(31,893)
Foreign exchange		(106)		(28,715)		(11,492)		(40,313)
December 25, 2021		283,524		1,472,506		955,851		2,711,881
Acquisitions		215,752		—		(592)		215,160
Divestitures		—		—		(3,168)		(3,168)
Foreign exchange		(1,566)		(38,905)		(33,499)		(73,970)
December 31, 2022	\$	497,710	\$	1,433,601	\$	918,592	\$	2,849,903

⁽¹⁾ DSA includes accumulated impairment losses of \$1 billion, which were recognized in fiscal years 2008 and 2010.

Based on the Company's quantitative goodwill impairment test, which was performed in the fourth quarter for each of the fiscal years 2022, 2021 and 2020, the fair value of each reporting unit exceeded the reporting unit's book value and, therefore, goodwill was not impaired.

The increase in goodwill during fiscal year 2022 related primarily to the acquisition of Explora BioLabs in the RMS reportable segment, partially offset by a decrease due to the Avian divestiture impacting the Manufacturing reportable segment. The increase in goodwill during fiscal year 2021 related primarily to the acquisitions of Cognate and Vigene in the Manufacturing reportable segment and Distributed Bio and Retrogenix in the DSA reportable segment, partially offset by the decreases in the RMS and Manufacturing reportable segments due to the divestitures of RMS Japan and CDMO Sweden, respectively.

Intangible Assets, Net

The following table displays intangible assets, net by major class:

	December 31, 2022			December 25, 2021		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
	(in thousands)					
Backlog	\$ 15,236	\$ (12,512)	\$ 2,724	\$ 12,577	\$ (9,517)	\$ 3,060
Technology	129,626	(101,655)	27,971	135,764	(95,454)	40,310
Trademarks and trade names	12,617	(4,410)	8,207	13,086	(3,448)	9,638
Other	37,985	(22,122)	15,864	35,231	(8,445)	26,786
Client relationships	1,491,926	(591,417)	900,509	1,475,757	(494,359)	981,398
Intangible assets	\$ 1,687,390	\$ (732,116)	\$ 955,275	\$ 1,672,415	\$ (611,223)	\$ 1,061,192

The decrease in intangible assets, net during fiscal year 2022 related primarily to normal amortization over the useful lives and the Avian divestiture, partially offset by the acquisition of Explora BioLabs.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Amortization expense of definite-lived intangible assets, including client relationships, for fiscal years 2022, 2021 and 2020 was \$146.6 million, \$124.9 million and \$111.9 million, respectively. As of December 31, 2022, estimated amortization expense for intangible assets for each of the next five fiscal years is expected to be as follows:

Fiscal Year	Amortization Expense (in thousands)
2023	\$ 134,311
2024	\$ 122,612
2025	\$ 115,856
2026	\$ 108,436
2027	\$ 97,700

8. DEBT AND OTHER FINANCING ARRANGEMENTS

Long-term debt, net and finance leases consists of the following:

	December 31, 2022	December 25, 2021
	(in thousands)	
Revolving facility	\$ 1,197,586	\$ 1,161,431
4.25% Senior Notes due 2028	500,000	500,000
3.75% Senior Notes due 2029	500,000	500,000
4.00% Senior Notes due 2031	500,000	500,000
Other debt	1,594	368
Finance leases	30,646	27,223
Total debt and finance leases	2,729,826	2,689,022
Less:		
Current portion of long-term debt	1,347	101
Current portion of finance leases	2,330	2,694
Current portion of long-term debt and finance leases	3,677	2,795
Long-term debt and finance leases	2,726,149	2,686,227
Debt discount and debt issuance costs	(18,618)	(22,663)
Long-term debt, net and finance leases	\$ 2,707,531	\$ 2,663,564

As of December 31, 2022 and December 25, 2021, the weighted average interest rate on the Company's debt was 4.58% and 2.78%, respectively. In fiscal year 2021, the Company prepaid \$500 million of Senior Notes due in 2026 along with \$21 million of related debt extinguishment costs and \$13 million of accrued interest using proceeds from additional senior notes issued on the same day. The payment of the 2026 Senior Notes was accounted for as a debt extinguishment. Approximately \$21 million of debt extinguishment costs and \$5 million of deferred financing costs write-offs were recorded in Interest expense during fiscal year 2021.

Revolving facility (Credit Facility)

The Company has a revolving credit facility "Credit Facility" that provides for up to \$3.0 billion of multi-currency revolving credit. The Credit Facility has a maturity date of April 2026, with no required scheduled payment before that date. The interest rates applicable to the revolving facility are equal to (A) for revolving loans denominated in U.S. dollars, at the Company's option, either the base rate (which is the higher of (1) the prime rate, (2) the federal funds rate plus 0.50%, or (3) the one-month adjusted LIBOR rate plus 1.0%) or the adjusted LIBOR rate, (B) for revolving loans denominated in euros, the adjusted EURIBOR rate and (C) for revolving loans denominated in sterling, the daily simple SONIA rate, in each case, plus an interest rate margin based upon the Company's leverage ratio.

The Credit Facility includes certain customary representations and warranties, events of default, notices of material adverse changes to the Company's business and negative and affirmative covenants. These covenants include (1) maintenance of a ratio of consolidated earnings before interest, taxes, depreciation and amortization (EBITDA) less capital expenditures to consolidated cash interest expense, for any period of four consecutive fiscal quarters, of no less than 3.50 to 1.0 as well as (2) maintenance of a ratio of consolidated indebtedness to consolidated EBITDA for any period of four consecutive fiscal quarters, of no more than 4.25 to 1.0. As of December 31, 2022 and December 25, 2021, the Company was compliant with all financial

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

covenants under the Credit Facility. The obligations of the Company under the Credit Facility are collateralized by substantially all of the assets of the Company.

2028 Senior Notes

In fiscal year 2019, the Company issued \$500 million of 4.25% Senior Notes due in 2028 (2028 Senior Notes) in an unregistered offering. Interest on the 2028 Senior Notes is payable semi-annually on May 1 and November 1.

2029 Senior Notes and 2031 Senior Notes

In fiscal year 2021, the Company issued \$1 billion of debt split between \$500 million of 3.75% Senior Notes due in 2029 (2029 Senior Notes), and \$500 million of 4.00% Senior Notes due in 2031 (2031 Senior Notes), in an unregistered offering. Interest on the 2029 and 2031 Senior Notes is payable semi-annually on March 15 and September 15. Approximately \$10 million of deferred financing costs were capitalized as part of this debt issuance. Proceeds from the 2029 and 2031 Senior Notes were used as follows: prepay the \$500 million 2026 Senior Notes, \$21 million of debt extinguishment costs, and \$13 million of accrued interest; prepay the \$146.9 million remaining term loan; pay down \$135 million of the revolving facility; and pay for a portion of the Cognate acquisition, which occurred on March 29, 2021.

Foreign currency transactions

During fiscal years 2022 and 2021, the Company had multiple U.S. dollar denominated loans borrowed by a non-U.S. Euro functional currency entity under the Credit Facility, which were between \$250 million and \$400 million each. To limit this foreign currency exposure, the Company entered into foreign exchange forward contracts, which are not designated as hedging instruments. The gains and losses incurred on these transactions were as follows:

	December 31, 2022	December 25, 2021	Affected Line Item in the Consolidated Statements of Income
	(in thousands)		
Gain (loss) on foreign exchange forward contract	\$ 49,712	\$ 34,131	Interest expense
Gain (loss) on foreign debt remeasurement	(46,529)	(31,830)	Other income (expense)

Principal Maturities

Principal maturities of existing debt for the periods set forth in the table below, are as follows:

	Principal	
	(in thousands)	
2023	\$	1,347
2024		247
2025		—
2026		1,197,586
2027		—
Thereafter		1,500,000
Total	\$	2,699,180

Letters of Credit

As of December 31, 2022 and December 25, 2021, the Company had \$18.6 million and \$17.7 million, respectively, in outstanding letters of credit.

9. EQUITY AND NONCONTROLLING INTERESTS

Earnings Per Share

The following table reconciles the numerator and denominator in the computations of basic and diluted earnings per share:

	Fiscal Year		
	2022	2021	2020
(in thousands)			
Numerator:			
Net income	\$ 492,608	\$ 398,837	\$ 365,306
Less: Net income attributable to noncontrolling interests	6,382	7,855	1,002
Net income attributable to common shareholders	<u>\$ 486,226</u>	<u>\$ 390,982</u>	<u>\$ 364,304</u>
Denominator:			
Weighted-average shares outstanding—Basic	50,812	50,293	49,550
Effect of dilutive securities:			
Stock options, restricted stock units and performance share units	489	1,132	1,061
Weighted-average shares outstanding—Diluted	<u>51,301</u>	<u>51,425</u>	<u>50,611</u>
Anti-dilutive common stock equivalents ⁽¹⁾	560	152	249

⁽¹⁾ These common stock equivalents were outstanding for the periods presented, but were not included in the computation of diluted EPS for those periods because their inclusion would have had an anti-dilutive effect.

Treasury Shares

The Company's Board of Directors has authorized a \$1.3 billion stock repurchase program. As of December 31, 2022, the Company had \$129.1 million remaining on the authorized stock repurchase program.

The Company's stock-based compensation plans permit the netting of common stock upon vesting of RSUs and PSUs in order to satisfy individual statutory tax withholding requirements. The Company acquired shares of 0.1 million in fiscal years 2022 and 2021, for \$38.7 million and \$40.7 million, respectively, from such netting.

Prior to the end of fiscal years 2022, 2021 and 2020, the Company's Board of Directors approved the cancellation and return to the Company's authorized and unissued capital stock, reducing treasury stock on the Company's consolidated balance sheet. The Company allocated the excess of the repurchase price over the par value of shares acquired to reduce both retained earnings and additional paid-in capital.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Accumulated Other Comprehensive Income (Loss)

Changes to each component of accumulated other comprehensive income (loss), net of income taxes, are as follows:

	Foreign Currency Translation Adjustment and Other	Pension and Other Post-Retirement Benefit Plans	Net Unrealized Loss on Cash Flow Hedge	Total
(in thousands)				
December 28, 2019	\$ (87,578)	\$ (90,441)	\$ —	\$ (178,019)
Other comprehensive income before reclassifications ⁽¹⁾	20,909	15,747	—	36,656
Amounts reclassified from accumulated other comprehensive income	—	17,861	—	17,861
Net current period other comprehensive (loss) income	20,909	33,608	—	54,517
Income tax (benefit) expense	7,215	8,157	—	15,372
December 26, 2020	(73,884)	(64,990)	—	(138,874)
Other comprehensive income before reclassifications ⁽¹⁾	(30,316)	(1,193)	—	(31,509)
Amounts reclassified from accumulated other comprehensive income	—	1,678	—	1,678
Net current period other comprehensive (loss) income	(30,316)	485	—	(29,831)
Income tax (benefit) expense	(6,027)	2,062	—	(3,965)
December 25, 2021	(98,173)	(66,567)	—	(164,740)
Other comprehensive (loss) income before reclassifications ⁽¹⁾	(125,507)	24,471	(1,523)	(102,559)
Amounts reclassified from accumulated other comprehensive income	—	3,337	—	3,337
Net current period other comprehensive (loss) income	(125,507)	27,808	(1,523)	(99,222)
Income tax (benefit) expense	(5,895)	4,355	(365)	(1,905)
December 31, 2022	\$ (217,785)	\$ (43,114)	\$ (1,158)	\$ (262,057)

⁽¹⁾ The impact of the foreign currency translation adjustment to other comprehensive income (loss) before reclassifications was primarily due to the effect of changes in foreign currency exchange rates of the Japanese Yen, Euro, British Pound, Canadian Dollar, Chinese Yuan Renminbi, and Hungarian Forint and to a lesser extent due to the impact of changes in the Brazilian Real.

Nonredeemable Noncontrolling Interest

The Company has an investment in an entity whose financial results are consolidated in the Company's financial statements, as it has the ability to exercise control over this entity. The interest of the noncontrolling party in this entity has been recorded as noncontrolling interest within Equity in the accompanying consolidated balance sheets. The activity within the nonredeemable noncontrolling interest (net income less dividends declared) during fiscal years 2022, 2021, and 2020 was not significant.

Redeemable Noncontrolling Interests

The Company holds a 92% ownership interest in Vital River, a commercial provider of research models and related services in China as of December 31, 2022. The company has the right to purchase, and the noncontrolling interest holders have the right to sell, the remaining 8% equity interest at a contractually defined redemption value, subject to a redemption floor, which represents a derivative embedded within the equity instrument. The redeemable noncontrolling interest is measured at the greater of the amount that would be paid if settlement occurred as of the balance sheet date based on the contractually defined redemption value (\$24.4 million) as of December 31, 2022) and the carrying amount adjusted for net income (loss) attributable to the noncontrolling interest. The amount that the Company could be required to pay to purchase the remaining 8% equity interest is not limited. During the fourth quarter of fiscal 2022, the Company exercised its option to acquire the remaining 8%; however, has not yet closed the purchase of the remaining equity interest.

In 2019, the Company acquired an 80% equity interest in a subsidiary that is fully consolidated under the voting interest model, which includes a 10% redeemable noncontrolling interest. In June 2022, the Company purchased an additional 10% interest in the subsidiary for \$15.0 million. Beginning in 2024, the Company has the right to purchase, and the noncontrolling interest

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

holders have the right to sell (Put/call option), the remaining 10% equity interest at its appraised value (\$17.0 million as of December 31, 2022). The redeemable noncontrolling interest is measured at the greater of the amount that would be paid if settlement occurred as of the balance sheet date based on the appraised value and the carrying amount adjusted for net income (loss) attributable to the noncontrolling interest or a predetermined floor value. The amount that the Company could be required to pay to purchase the remaining 10% equity interest is not limited.

The following table provides a rollforward of the activity related to the Company's redeemable noncontrolling interests:

	Fiscal Year		
	2022	2021	2020
	(in thousands)		
Beginning balance	\$ 53,010	\$ 25,499	\$ 28,647
Adjustments to redemption value	7,506	21,312	—
Additional purchases	(15,000)	—	(3,732)
Net income (loss)	4,020	5,375	(852)
Dividends	(3,525)	—	—
Foreign currency translation	(3,584)	824	1,436
Ending balance	<u>\$ 42,427</u>	<u>\$ 53,010</u>	<u>\$ 25,499</u>

10. INCOME TAXES

The components of income from operations before income taxes and the related provision for income taxes are presented below:

	Fiscal Year		
	2022	2021	2020
	(in thousands)		
Income before income taxes:			
U.S.	\$ 280,075	\$ 129,598	\$ 226,935
Non-U.S.	342,912	351,112	220,179
Total income before income taxes	<u>\$ 622,987</u>	<u>\$ 480,710</u>	<u>\$ 447,114</u>
Income tax provision (benefit):			
Current:			
Federal	\$ 75,052	\$ 32,728	\$ 38,192
Foreign	68,644	60,197	35,410
State	19,790	9,257	6,623
Total current	<u>163,486</u>	<u>102,182</u>	<u>80,225</u>
Deferred:			
Federal	(27,230)	(27,486)	386
Foreign	(1,134)	13,891	5,583
State	(4,743)	(6,714)	(4,386)
Total deferred	<u>(33,107)</u>	<u>(20,309)</u>	<u>1,583</u>
Total provision for income taxes	<u>\$ 130,379</u>	<u>\$ 81,873</u>	<u>\$ 81,808</u>

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Reconciliations of the statutory U.S. federal income tax rate to effective tax rates are as follows:

	Fiscal Year		
	2022	2021	2020
U.S. statutory income tax rate	21.0 %	21.0 %	21.0 %
Foreign tax rate differences	0.4	0.1	1.2
State income taxes, net of federal tax benefit	2.3	0.8	0.4
Non-deductible compensation	0.9	1.2	1.0
Research tax credits and enhanced deductions	(3.8)	(5.0)	(3.4)
Stock-based compensation	(1.4)	(4.3)	(2.7)
Enacted tax rate changes	0.4	3.0	0.7
Tax on unremitted earnings	1.6	1.8	1.3
Impact of tax uncertainties	(1.3)	0.7	(0.2)
Impact of acquisitions and restructuring	2.0	(1.6)	0.5
Net operating loss deferred tax asset recognition, net of valuation allowance (NOL DTA)	(0.8)	—	(0.1)
Other	(0.4)	(0.7)	(1.4)
Effective income tax rate	<u>20.9 %</u>	<u>17.0 %</u>	<u>18.3 %</u>

The components of deferred tax assets and liabilities are as follows:

	December 31, 2022	December 25, 2021
	(in thousands)	
Deferred tax assets:		
Compensation	\$ 26,341	\$ 28,900
Accruals and reserves	16,938	23,760
Net operating loss and credit carryforwards	382,932	410,156
Operating lease liability	100,156	65,592
Other	27,132	8,323
Valuation allowance	(294,753)	(315,645)
Total deferred tax assets	<u>258,746</u>	<u>221,086</u>
Deferred tax liabilities:		
Goodwill and other intangibles	(256,234)	(280,081)
Depreciation related	(48,965)	(35,514)
Venture capital investments	(12,007)	(16,018)
Tax on unremitted earnings	(16,407)	(21,060)
Right-of-use assets	(91,716)	(64,257)
Other	(7,737)	(3,650)
Total deferred tax liabilities	<u>(433,066)</u>	<u>(420,580)</u>
Net deferred taxes	<u>\$ (174,320)</u>	<u>\$ (199,494)</u>

The Company has recognized its deferred tax assets on the belief that it is more likely than not that they will be realized. Exceptions primarily relate to deferred tax assets for net operating losses in Luxembourg, Sweden, certain capital losses, and fixed assets in the U.K.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

A reconciliation of the Company's beginning and ending valuation allowance are as follows:

	Fiscal Year		
	2022	2021	2020
Beginning balance	\$ 315,645	\$ 334,845	\$ 309,962
Additions (reductions) charged to income tax provision, net	1,929	1,023	(2,707)
Additions due to acquisitions	—	7,747	—
Reductions due to divestitures, restructuring	(5,337)	(4,706)	—
Currency translation and other	(17,484)	(23,264)	27,590
Ending balance	<u>\$ 294,753</u>	<u>\$ 315,645</u>	<u>\$ 334,845</u>

As of December 31, 2022, the Company had tax-effected deferred tax assets for net operating loss carryforwards of \$336.6 million, as compared to \$368.5 million as of December 25, 2021. Of this amount, \$25.0 million are definite-lived and begin to expire in 2027, and the remainder of \$311.6 million can be carried forward indefinitely. The Company has deferred tax assets for tax credit carryforwards of \$46.3 million. The entire \$46.3 million are definite-lived and begin to expire after 2039. Additionally, the Company records a benefit to operating income for research and development and other credits in Quebec, France, the Netherlands, and the U.K. related to its DSA facilities.

A reconciliation of the Company's beginning and ending unrecognized income tax benefits is as follows:

	Fiscal Year		
	2022	2021	2020
	(in thousands)		
Beginning balance	\$ 32,592	\$ 24,970	\$ 19,665
Additions to tax positions for current year	4,756	9,544	7,044
Additions to tax positions for prior years	962	2,476	4,589
Reductions to tax positions for prior years	(1,420)	(1,330)	(127)
Settlements	(10,514)	(1,870)	(5,859)
Expiration of statute of limitations	(3,134)	(1,198)	(342)
Ending balance	<u>\$ 23,242</u>	<u>\$ 32,592</u>	<u>\$ 24,970</u>

The \$9.4 million decrease in unrecognized income tax benefits during fiscal year 2022 as compared to the corresponding period in 2021 is primarily attributable to audit settlements associated with amended U.S. state tax returns and Canadian Scientific Research and Experimental Development (SR&ED) credits, and statute of limitations lapses, partially offset by an additional year of SR&ED credit additions. The amount of unrecognized income tax benefits that, if recognized, would favorably impact the effective tax rate was \$20.3 million as of December 31, 2022 and \$30.0 million as of December 25, 2021. The \$9.7 million decrease is primarily due to the same items noted above. It is reasonably possible as of December 31, 2022 that the liability for unrecognized tax benefits for the uncertain tax position will decrease by approximately \$0.5 million over the next twelve-month period. The Company continues to recognize interest and penalties related to unrecognized income tax benefits in income tax expense. The total amount of cumulative accrued interest related to unrecognized income tax benefits as of December 31, 2022 and December 25, 2021 was \$1.4 million and \$1.7 million, respectively. Interest expense recorded as a component of income taxes was immaterial for all periods. There were no accrued penalties related to unrecognized income tax benefits as of December 31, 2022 or as of December 25, 2021.

The Company conducts business in a number of tax jurisdictions. As a result, it is subject to tax audits on a regular basis including, but not limited to, such major jurisdictions as the U.S., the U.K., China, France, Germany, and Canada. With few exceptions, the Company is no longer subject to U.S. and international income tax examinations for years before 2019.

The Company and certain of its subsidiaries have ongoing tax controversies in the U.S., Canada, France, and India. The Company does not anticipate resolution of these audits will have a material impact on its consolidated financial statements.

Prepaid income tax of \$88.6 million and \$84.7 million has been presented within Other current assets in the accompanying consolidated balance sheets as of December 31, 2022 and December 25, 2021, respectively. Accrued income taxes of \$39.9 million and \$26.2 million have been presented within Other current liabilities in the accompanying consolidated balance sheets as of December 31, 2022 and December 25, 2021, respectively.

11. EMPLOYEE BENEFIT PLANS

Pension Plans

The Charles River Pension Plan (U.K. Pension Plan) is a defined contribution and defined benefit pension plan covering certain U.K. employees. Benefits are based on participants' final pensionable salary and years of service. Participants' rights vest immediately. The plan was previously amended to exclude new participants from joining the defined benefit section of the plan and a defined contribution section was established for new entrants. Contributions under the defined contribution plan are determined as a percentage of gross salary. Additionally, the U.K. Pension Plan was amended such that the members of the defined benefit section of the plan ceased to accrue additional benefits; however, their benefits continue to be adjusted for changes in their final pensionable salary or a specified inflation index, as applicable. During fiscal 2022, the Company made no contributions to the U.K. Pension Plan. As of fiscal 2022 year-end, this plan was in a funded status of \$38.7 million.

During 2022, the Company terminated a non-contributory defined benefit plan that covered certain employees in Canada (Canada Pension Plan). As of the most recent plan valuation date (December 25, 2021) the Canada Pension Plan was underfunded with a projected benefit obligation of \$15.3 million, plan assets of \$11.7 million, and unrecognized losses of \$4.1 million recorded in accumulated other comprehensive income. Upon settlement of the pension liability in fiscal year 2022, the Company recognized a \$1.0 million loss related to the net periodic benefit cost recorded in Other expense in the consolidated statements of income.

During 2020, the Company settled all remaining benefits directly with vested participants of the Charles River Laboratories, Inc. Pension Plan (U.S. Pension Plan) through lump sum payouts and the purchase of a group annuity contract from a qualified insurance company to administer all future payments. Upon settlement of the pension liability, the Company recognized a non-cash settlement charge of \$10.3 million related to pension losses, reclassified from accumulated other comprehensive loss on the consolidated balance sheet, to other expense in the consolidated statements of income.

In addition, the Company has several defined benefit plans in certain other countries in which it maintains an operating presence, including Canada, France, Germany, Italy, Netherlands, and Japan.

The net periodic benefit cost (income) associated with these plans for fiscal years 2022, 2021 and 2020 totaled \$0.1 million, \$0.5 million and \$1.6 million, respectively.

Charles River Laboratories Deferred Compensation Plan and Executive Supplemental Life Insurance Retirement Plan

The Company maintains a non-qualified deferred compensation plan, known as the Charles River Laboratories Deferred Compensation Plan (DCP), which allows a select group of eligible employees to defer a portion of their compensation. At the present time, no contributions are credited to the DCP, except as set forth below. Participants must specify the distribution date for deferred amounts at the time of deferral, in accordance with applicable IRS regulations. Generally, amounts may be paid in lump sum or installments upon retirement or termination of employment, or later if the employee terminates employment after age 55 and before age 65. Amounts may also be distributed during employment, subject to a minimum deferral requirement of three years.

The Company provides certain active employees an annual contribution into their DCP account of 10% of the employee's base salary plus the lesser of their target annual bonus or actual annual bonus.

In addition to the DCP, certain officers and key employees also participate, or in the past participated, in the Company's Executive Supplemental Life Insurance Retirement Plan (ESLIRP), which is a non-funded, non-qualified arrangement. Annual benefits under this plan will equal a percentage of the highest five consecutive years of compensation, offset by amounts payable under the U.S. Pension Plan and Social Security. In connection with the establishment of the DCP, certain active ESLIRP participants, who agreed to convert their accrued ESLIRP benefit to a comparable deferred compensation benefit, discontinued their direct participation in the ESLIRP. Instead, the present values of the accrued benefits of ESLIRP participants were credited to their DCP accounts, and future accruals are converted to present values and credited to their DCP accounts annually. In fiscal year 2020, one executive officer, who converted their ESLIRP benefit into the DCP, retired resulting in lump sum payment of \$8.1 million. Upon settlement of this pension liability, the Company recognized a non-cash settlement charge of \$2.1 million related to pension losses, reclassified from accumulated other comprehensive loss on the consolidated balance sheet, to other expense in the consolidated statements of income.

The net periodic benefit cost associated with these plans for fiscal years 2022, 2021 and 2020 totaled \$4.3 million, \$4.3 million and \$5.7 million, respectively.

The Company has invested in several corporate-owned key-person life insurance policies with the intention of using these investments to fund the ESLIRP and the DCP. Participants have no interest in any such investments. As of December 31, 2022 and December 25, 2021, the cash surrender value of these life insurance policies were \$41.9 million and \$51.0 million, respectively.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table provides a reconciliation of benefit obligations and plan assets of the Company's pension, DCP and ESLIRP plans:

	December 31, 2022	December 25, 2021
	(in thousands)	
Change in projected benefit obligations:		
Benefit obligation at beginning of year	\$ 372,599	\$ 367,468
Service cost	3,213	3,455
Interest cost	6,140	5,492
Benefit payments	(6,469)	(7,564)
Curtailment	(2,477)	—
Settlements	(11,939)	(82)
Transfer out due to divestiture	—	(11,956)
Actuarial (gain) loss	(134,923)	18,107
Effect of foreign exchange	(20,593)	(2,321)
Benefit obligation at end of year	<u>\$ 205,551</u>	<u>\$ 372,599</u>
Change in fair value of plan assets:		
Fair value of plan assets at beginning of year	\$ 335,631	\$ 324,752
Actual return on plan assets	(105,749)	24,151
Employer contributions	4,558	11,221
Settlements	(11,939)	(82)
Transfer out due to divestiture	—	(15,918)
Benefit payments	(6,469)	(7,564)
Administrative expenses paid	—	—
Effect of foreign exchange	(23,492)	(929)
Fair value of plan assets at end of year	<u>\$ 192,540</u>	<u>\$ 335,631</u>
Net balance sheet liability	\$ 13,011	\$ 36,968
Amounts recognized in balance sheet:		
Noncurrent assets	\$ 39,185	\$ 39,621
Current liabilities	1,151	1,876
Noncurrent liabilities	51,045	74,713

Actuarial gains and losses are driven by changes in economic assumptions, principally discount rates. Amounts recognized in accumulated other comprehensive loss related to the Company's pension, DCP and ESLIRP plans are as follows:

	Fiscal Year	
	2022	2021
	(in thousands)	
Net actuarial loss	\$ 54,509	\$ 82,746
Net prior service cost (credit)	(585)	(1,091)
Net amount recognized	<u>\$ 53,924</u>	<u>\$ 81,655</u>

The accumulated benefit obligation and fair value of plan assets for the Company's pension, DCP and ESLIRP plans with accumulated benefit obligations in excess of plan assets are as follows:

	December 31, 2022	December 25, 2021
	(in thousands)	
Accumulated benefit obligation	\$ 48,414	\$ 75,133
Fair value of plan assets	2,258	12,663

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The projected benefit obligation and fair value of plan assets for the Company's pension, DCP and ESLIRP plans with projected benefit obligations in excess of plan assets are as follows:

	December 31, 2022		December 25, 2021	
	(in thousands)			
Projected benefit obligation	\$	55,304	\$	96,089
Fair value of plan assets		3,108		19,500

Components of total benefit cost for the Company's pension, DCP and ESLIRP plans are as follows:

	Fiscal Year					
	2022		2021		2020	
	(in thousands)					
Service cost	\$	3,213	\$	3,455	\$	3,609
Interest cost		6,140		5,492		8,849
Expected return on plan assets		(7,322)		(8,058)		(11,348)
Amortization of prior service credit		(506)		(531)		(489)
Amortization of net loss		2,869		4,528		6,239
Other		—		—		417
Net periodic benefit cost		4,394		4,886		7,277
Settlement		981		(2,320)		12,385
Total benefit cost	\$	5,375	\$	2,566	\$	19,662

Assumptions

Weighted-average assumptions used to determine projected benefit obligations are as follows:

	December 31, 2022		December 25, 2021	
Discount rate		4.8 %		1.8 %
Rate of compensation increase		3.2 %		3.7 %

The discount rate reflects the rate the Company would have to pay to purchase high-quality investments that would provide cash sufficient to settle its current pension obligations. A 25-basis point change across all discount rates changes the projected benefit obligation by approximately \$7 million for all Company plans.

Weighted-average assumptions used to determine net periodic benefit cost are as follows:

	December 31, 2022		December 25, 2021		December 26, 2020	
Discount rate		1.8 %		1.5 %		2.1 %
Expected long-term return on plan assets		2.4 %		2.5 %		3.4 %
Rate of compensation increase		3.7 %		3.0 %		3.0 %

A 0.5% decrease in the expected rate of return would increase annual pension expense by \$1.0 million.

In fiscal years 2022 and 2021, new mortality improvement scales were issued in the U.S. and the United Kingdom (U.K.) reflecting a decline in longevity projection from previous releases the Company adopted, which decreased the Company's benefit obligations by \$0.2 million and \$0.5 million as of December 31, 2022 and December 25, 2021, respectively.

Plan Assets

The Company invests its pension assets with the objective of achieving a total long-term rate of return sufficient to fund future pension obligations and to minimize future pension contributions. The Company is willing to tolerate a commensurate level of risk to achieve this objective. The Company controls its risk by maintaining a diversified portfolio of asset classes. Plan assets did not include any of the Company's common stock as of December 31, 2022 or December 25, 2021. The weighted-average target asset allocations are 6.1% to equity securities, 85.7% to fixed income securities and 8.2% to other securities.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The fair value of the Company's pension plan assets by asset category are as follows:

	December 31, 2022				December 25, 2021			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
(in thousands)								
Cash and cash equivalents	\$ 362	\$ 5,153	\$ —	\$ 5,515	\$ 8,142	\$ 4,549	\$ —	\$ 12,691
Equity securities ⁽¹⁾	—	9,308	—	9,308	—	60,872	—	60,872
Debt securities ⁽²⁾	—	123,638	—	123,638	—	140,082	—	140,082
Mutual funds ⁽³⁾	8,380	9,372	—	17,752	7,071	69,269	—	76,340
Other ⁽⁴⁾	—	36,268	59	36,327	—	44,568	1,078	45,646
Total	<u>\$ 8,742</u>	<u>\$ 183,739</u>	<u>\$ 59</u>	<u>\$ 192,540</u>	<u>\$ 15,213</u>	<u>\$ 319,340</u>	<u>\$ 1,078</u>	<u>\$ 335,631</u>

⁽¹⁾ This category comprises equity investments and securities held by non-U.S. pension plans valued at the quoted closing price and translated into U.S. dollars using a foreign currency exchange rate at year end.

⁽²⁾ This category comprises debt investments and securities held by non-U.S. pension plans valued at the quoted closing price and translated into U.S. dollars using a foreign currency exchange rate at year end. Holdings primarily include investment-grade corporate bonds and treasuries at various durations.

⁽³⁾ This category comprises mutual funds valued at the net asset value of shares held by non-U.S. pension plans at year end and translated into U.S. dollars using a foreign currency exchange rate at year end.

⁽⁴⁾ This category mainly comprises fixed income securities tied to various U.K. government bond yields held by non-US pension plans valued at the net asset value of shares held at year-end and translated into U.S. dollars using a foreign currency exchange rate at year end.

The activity within the Level 3 pension plan assets was not significant during the periods presented.

During fiscal year 2022, the Company contributed \$2.9 million to the pension plans and does not expect to make contributions in fiscal year 2023. During fiscal year 2022, the Company paid \$1.6 million directly to certain participants outside of plan assets.

Expected benefit payments are estimated using the same assumptions used in determining the Company's benefit obligation as of 2022. Benefit payments will depend on future employment and compensation levels, among other factors, and changes in any of these factors could significantly affect these estimated future benefit payments. Estimated future benefit payments during the next five years and in the aggregate for fiscal years 2028 through 2032, are as follows.

Fiscal Year	Pension Plans
(in thousands)	
2023	\$ 5,607
2024	6,714
2025	6,734
2026	44,308
2027	7,769
2028-2032	48,718

Charles River Laboratories Employee Savings Plan

The Charles River Laboratories Employee Savings Plan is a defined contribution plan in the form of a qualified 401(k) plan in which substantially all U.S. employees are eligible to participate upon employment. The plan contains a provision whereby the Company matches a percentage of employee contributions. During fiscal years 2022, 2021 and 2020, the costs associated with this defined contribution plan totaled \$28.8 million, \$24.0 million and \$14.6 million, respectively.

12. STOCK-BASED COMPENSATION

The Company has stock-based compensation plans under which employees and non-employee directors are granted stock-based awards such as stock options, RSUs, and PSUs.

During fiscal years 2022, 2021 and 2020, the primary share-based awards and their general terms and conditions are as follows:

- Stock options, which entitle the holder to purchase a specified number of shares of common stock at an exercise price equal to the closing market price of common stock on the date of grant; typically vest over 4 years; and typically expire 5 or 10 years from date of grant.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- RSUs, which represent an unsecured promise to grant at no cost a set number of shares of common stock upon the completion of the vesting schedule, and principally vest over 4 years. With respect to RSUs, recipients are not entitled to cash dividends and have no voting rights on the stock during the vesting period.
- PSUs, which entitle the holder to receive at no cost, a specified number of shares of common stock within a range of shares from zero to a specified maximum and typically vest over 3 years. Payout of this award is contingent upon achievement of certain performance and market conditions.

As of December 31, 2022, approximately 5.3 million shares were authorized for future grants under the Company's share-based compensation plans. The Company settles employee share-based compensation awards with newly issued shares. The following table provides stock-based compensation by the financial statement line item in which it is reflected:

	Fiscal Year		
	2022	2021	2020
	(in thousands)		
Cost of revenue	\$ 14,853	\$ 13,087	\$ 10,636
Selling, general and administrative	58,764	58,387	45,705
Stock-based compensation, before income taxes	73,617	71,474	56,341
Provision for income taxes	(10,969)	(10,299)	(8,130)
Stock-based compensation, net of income taxes	\$ 62,648	\$ 61,175	\$ 48,211

No stock-based compensation related costs were capitalized in fiscal years 2022, 2021 and 2020.

Stock Options

The following table summarizes stock option activity under the Company's stock-based compensation plans:

	Number of shares (in thousands)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Options outstanding as of December 25, 2021	917	\$ 175.24		
Options granted	214	\$ 243.05		
Options exercised	(219)	\$ 114.88		
Options canceled	(30)	\$ 241.35		
Options outstanding as of December 31, 2022	882	\$ 204.41	5.7	\$ 34,579
Options exercisable as of December 31, 2022	369	\$ 169.27	3.5	\$ 23,443
Options expected to vest as of December 31, 2022	514	\$ 229.64	7.3	\$ 11,136

The fair value of stock options granted was estimated using the Black-Scholes option-pricing model with the following weighted-average assumptions:

	Fiscal Year		
	2022	2021	2020
Expected life (in years)	6.0	6.0	6.0
Expected volatility	33 %	32 %	30 %
Risk-free interest rate	2.7 %	1.0 %	0.4 %
Expected dividend yield	0 %	0 %	0 %

The weighted-average grant date fair value of stock options granted was \$90.05, \$108.61 and \$53.37 for fiscal years 2022, 2021 and 2020, respectively.

As of December 31, 2022, the unrecognized compensation cost related to unvested stock options expected to vest was \$23.3 million. This unrecognized compensation will be recognized over an estimated weighted-average amortization period of 2.7 years.

The total intrinsic value of options exercised during fiscal years 2022, 2021 and 2020 was \$33.2 million, \$94.4 million and \$48.6 million, respectively, with intrinsic value defined as the difference between the market price on the date of exercise and the exercise price.

Restricted Stock Units

The following table summarizes the restricted stock units activity for fiscal year 2022:

	Restricted Stock Units (in thousands)	Weighted Average Grant Date Fair Value
December 25, 2021	373	\$ 197.45
Granted	158	\$ 245.11
Vested	(141)	\$ 176.04
Canceled	(26)	\$ 243.42
December 31, 2022	364	\$ 226.43

As of December 31, 2022, the unrecognized compensation cost related to shares of unvested RSUs expected to vest was \$48.1 million, which is expected to be recognized over an estimated weighted-average amortization period of 2.8 years. The total fair value of RSU grants that vested during fiscal years 2022, 2021 and 2020 was \$24.8 million, \$22.8 million and \$20.0 million, respectively.

Performance Based Stock Award Program

The Company issues PSUs to certain corporate officers. The number of shares of common stock issued for each PSU is adjusted based on a performance condition linked to the Company's financial performance. Certain awards are further adjusted based on a market condition, which is calculated based on the Company's stock performance relative to a peer group over the three-year vesting period. The fair value of the market condition is reflected in the fair value of the award at grant date.

The Company utilizes a Monte Carlo simulation valuation model to value these awards. Information pertaining to the Company's PSUs and the related estimated weighted-average assumptions used to calculate their fair value were as follows:

	Fiscal Year		
	2022	2021	2020
	(shares in thousands)		
PSUs granted	134	64	98
Weighted average grant date fair value	\$ 210.42	\$ 407.76	\$ 209.67
Key assumptions:			
Expected volatility	39 %	37 %	35 %
Risk-free interest rate	2.6 %	0.2 %	0.2 %
Expected dividend yield	0 %	0 %	0 %
Total shareholder return of 20-trading day average stock price on grant date	(32.7)%	39.9 %	21.7 %

The maximum number of common shares to be issued upon vesting of PSUs is 0.3 million. For fiscal years 2022, 2021 and 2020, the Company recognized stock-based compensation related to PSUs of \$31.2 million, \$31.8 million and \$22.7 million, respectively. The total fair value of PSUs that vested during fiscal years 2022, 2021 and 2020 was \$31.0 million, \$26.0 million and \$20.9 million, respectively.

In fiscal years 2021 and 2020, the Company also issued approximately 5,000 and 9,000 PSUs using a weighted-average grant date fair value per share of \$477.52 and \$179.66, respectively. These PSUs vest upon the achievement of financial targets and other performance measures.

13. RESTRUCTURING AND ASSET IMPAIRMENTS

Global Restructuring Initiatives

In recent fiscal years, the Company has undertaken productivity improvement initiatives within all reportable segments at various locations across the U.S., Canada, and Europe. This includes workforce right-sizing and scalability initiatives, resulting in severance and transition costs; and cost related to the consolidation of facilities, resulting in asset impairment and accelerated depreciation charges. The Company does not have any significant remaining lease obligations for facilities associated with restructuring activities.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table presents restructuring costs by reportable segment for these productivity improvement initiatives:

	Fiscal Year		
	2022	2021	2020
	(in thousands)		
RMS	\$ 1,007	\$ 7	\$ 845
DSA	851	3,114	8,605
Manufacturing	5,126	3,663	2,733
Unallocated corporate	1,229	72	411
Total	\$ 8,213	\$ 6,856	\$ 12,594

As of December 31, 2022 and December 25, 2021, \$1.3 million and \$4.0 million, respectively, of severance and other personnel related costs liabilities and lease obligation liabilities were included in accrued compensation and accrued liabilities within the Company's consolidated balance sheets.

14. LEASES

Operating and Finance Leases

Right-of-use lease assets and lease liabilities are reported in the Company's consolidated balance sheets as follows:

	December 31, 2022	December 25, 2021
	(in thousands)	
Operating leases		
Operating lease right-of-use assets, net	\$ 391,762	\$ 292,941
Other current liabilities	\$ 46,526	\$ 33,267
Operating lease right-of-use liabilities	389,745	252,972
Total operating lease liabilities	\$ 436,271	\$ 286,239
Finance leases		
Property, plant and equipment, net	\$ 31,875	\$ 29,437
Current portion of long-term debt and finance leases	\$ 2,330	\$ 2,694
Long-term debt, net and finance leases	28,316	24,529
Total finance lease liabilities	\$ 30,646	\$ 27,223

The components of operating and finance lease costs were as follows:

	December 31, 2022	December 25, 2021	December 26, 2020
	(in thousands)		
Operating lease costs	\$ 59,671	\$ 45,728	\$ 32,965
Finance lease costs:			
Amortization of right-of-use assets	3,035	3,337	3,723
Interest on lease liabilities	1,441	1,280	1,306
Short-term lease costs	2,954	2,441	2,349
Variable lease costs	13,965	4,623	5,122
Sublease income	(1,912)	(2,008)	(1,673)
Total lease costs	\$ 79,154	\$ 55,401	\$ 43,792

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Other information related to leases was as follows:

Supplemental cash flow information

	December 31, 2022	December 25, 2021	December 26, 2020
	(in thousands)		
Cash flows included in the measurement of lease liabilities:			
Operating cash flows from operating leases	\$ 48,360	\$ 42,576	\$ 29,961
Operating cash flows from finance leases	1,442	1,282	1,306
Finance cash flows from finance leases	2,257	3,202	4,350
Non-cash leases activity:			
Right-of-use lease assets obtained in exchange for new operating lease liabilities	\$ 189,134	\$ 142,764	\$ 63,499
Right-of-use lease assets obtained in exchange for new finance lease liabilities	8,179	1,567	1,571

Lease term and discount rate

	As of December 31, 2022	As of December 25, 2021	As of December 26, 2020
Weighted-average remaining lease term (in years)			
Operating lease	9.8	9.0	8.5
Finance lease	13.6	11.7	12.4
Weighted-average discount rate			
Operating lease	4.3 %	3.6 %	4.5 %
Finance lease	5.3 %	4.4 %	4.1 %

At the lease commencement date, the discount rate implicit in the lease is used to discount the lease liability if readily determinable. If not readily determinable or leases do not contain an implicit rate, the Company's incremental borrowing rate is used as the discount rate, which is based on the information available at the lease commencement date and represents a rate that would be incurred to borrow, on a collateralized basis, over a similar term, an amount equal to the lease payments in a similar economic environment.

As of December 31, 2022, maturities of operating and finance lease liabilities for each of the following five years and a total thereafter were as follows:

	Operating Leases	Finance Leases
	(in thousands)	
2023	\$ 60,145	\$ 3,793
2024	63,679	3,689
2025	55,969	3,422
2026	51,881	2,962
2027	50,329	2,923
Thereafter	257,752	27,031
Total minimum future lease payments	539,755	43,820
Less: Imputed interest	103,484	13,174
Total lease liabilities	\$ 436,271	\$ 30,646

Total minimum future lease payments (predominantly operating leases) of approximately \$83 million for leases that have not commenced as of December 31, 2022, as the Company does not yet control the underlying assets, are not included in the consolidated financial statements. These leases are expected to commence between fiscal years 2023 and 2024 with lease terms of approximately 10 to 15 years.

15. COMMITMENTS AND CONTINGENCIES

Insurance

The Company maintains certain insurance policies that maintain large deductibles up to approximately \$2 million, some with or without stop-loss limits, depending on market availability. Insurance policies at certain locations are based on a percentage of the insured assets, for which deductibles for certain property may exceed \$15.0 million in the event of a catastrophic event. In addition, the Company purchased representation and warranty insurance in support of some acquisitions, in which deductibles could reach \$4.0 million.

Litigation

On February 16, 2023, the Company was informed by the U.S. Department of Justice (DOJ) that in conjunction with the U.S. Fish and Wildlife Service (USFWS), it had commenced an investigation into the Company's conduct regarding several shipments of non-human primates from Cambodia. On February 17, 2023 the Company received a grand jury subpoena requesting certain documents related to such investigation. The Company is aware of a parallel civil investigation being undertaken by the DOJ and USFWS. The Company is cooperating with the DOJ and the USFWS and believes that the concerns raised with respect to the Company's conduct are without merit. The Company maintains a global supplier onboarding and oversight program incorporating risk-based due diligence, auditing, and monitoring practices to help ensure the quality of our supplier relationships and compliance with applicable U.S. and international laws and regulations, and has operated under the belief that all shipments of non-human primates it received satisfied the material requirements, documentation and related processes and procedures of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) documentation and related processes and procedures, which guides the release of each import by USFWS. Notwithstanding our efforts and good-faith belief, in connection with the civil investigation, the Company has voluntarily suspended future shipments of non-human primates from Cambodia until such time that the Company and USFWS can agree upon and implement additional procedures to reasonably ensure that non-human primates imported to the United States from Cambodia are purpose-bred. While these discussions with USFWS are ongoing, the Company has also agreed to continue to care for the Cambodia-sourced non-human primates from certain recent shipments that are now in the United States. The carrying value of the inventory related to these shipments is approximately \$20 million. We are not able to predict what action, if any, might be taken in the future by the DOJ, USFWS or other governmental authorities as a result of the investigations. Neither the DOJ nor USFWS has provided the Company with any specific timeline or indication as to when these investigations or discussions regarding future processes and procedures will be concluded or resolved. Because it is in the early stages, the Company cannot predict the timing, outcome or possible impact of the investigations, including without limitation any potential fines, penalties or liabilities.

Aside from the matter above, the Company believes there are no other matters pending against the Company that could have a material impact on the Company's business, financial condition, or results of operations.

Guarantees

The Company enters into certain agreements with other parties in the ordinary course of business that contain indemnification provisions. These typically include agreements with directors and officers, business partners, contractors, landlords, and customers. Under these provisions, the Company generally indemnifies and holds harmless the indemnified party for losses suffered or incurred by the indemnified party as a result of the Company's activities. These indemnification provisions generally survive termination of the underlying agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification provisions is unlimited. However, to date the Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. As a result, the estimated fair value of these obligations is minimal.

Purchase Obligations

The Company enters into unconditional purchase obligations, in the ordinary course of business, that include agreements to purchase goods or services that are enforceable and legally binding and that specify all significant terms including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. These unconditional purchase obligations exclude agreements that are cancellable at any time without penalty. The aggregate amount of the Company's unconditional purchase obligations totaled approximately \$375 million as of December 31, 2022 and the majority of these obligations are expected to be settled during 2023.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

Based on their evaluation, required by paragraph (b) of Rules 13a-15 or 15d-15, promulgated by the Securities Exchange Act of 1934, as amended (Exchange Act), the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act, are effective, at a reasonable assurance level, as of December 31, 2022, to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurances of achieving the desired control objectives, and management necessarily was required to apply its judgment in designing and evaluating the controls and procedures.

(b) Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended). Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control-Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment and those criteria, management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2022.

Our assessment of the effectiveness of our internal control over financial reporting as of December 31, 2022 excluded Explora BioLabs, which was acquired by the Company in 2022. Explora BioLabs, whose total assets and total revenues were excluded from the Company's assessment, represented approximately 1.5% and 1.1%, respectively, of the related consolidated amounts as of and for the fiscal year ended December 31, 2022.

The effectiveness of our internal control over financial reporting as of December 31, 2022, has been audited by PricewaterhouseCoopers LLP, an Independent Registered Public Accounting Firm, as stated in their report which appears in Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K.

(c) Changes in Internal Controls Over Financial Reporting

During fiscal year 2022, the Company continued to execute a plan to centralize certain accounting transaction processing functions to internal shared service centers. There were no other material changes in the Company's internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of the Exchange Act Rules 13a-15 or 15d-15 that occurred during the fourth quarter of 2022 that materially affected, or were reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

A. Directors and Compliance with Section 16(a) of the Exchange Act

Any information required by this Item regarding our directors and compliance with Section 16(a) of the Exchange Act by our officers and directors will be included in the 2023 Proxy Statement under the sections captioned “Nominees for Directors” and “Delinquent Section 16(a) Reports” and is incorporated herein by reference thereto. The information required by this Item regarding our corporate governance will be included in the 2023 Proxy Statement under the section captioned “Corporate Governance” and is incorporated herein by reference thereto.

B. Our Executive Officers

The information required by this Item regarding our executive officers is reported in Part I of this Form 10-K under the heading “Item 1. Business”

C. Audit Committee Financial Expert

The information required by this Item regarding the audit committee of the Board of Directors and financial experts will be included in the 2023 Proxy Statement under the section captioned “The Board of Directors and its Committees-Audit Committee and Financial Experts” and is incorporated herein by reference thereto.

D. Code of Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all of our employees and directors, including our principal executive officer, principal financial officer, principal accounting officer, controller, or persons performing similar functions. Our Code of Business Conduct and Ethics is posted on our website and can be accessed by selecting the “Corporate Governance” link at <http://ir.criver.com>. We will provide to any person, without charge, a copy of our Code of Business Conduct and Ethics. To obtain a copy, please mail a request to the Corporate Secretary, Charles River Laboratories International, Inc., 251 Ballardvale Street, Wilmington, MA 01887. Information on our website is not incorporated by reference in this annual report.

E. Changes to Board Nomination Procedures

Since December 2008, there have been no material changes to the procedures by which security holders may recommend nominees to our Board of Directors.

Item 11. Executive Compensation

The information required by this Item will be included in the 2023 Proxy Statement under the sections captioned “2022 Director Compensation,” “Compensation Discussion and Analysis,” “Executive Compensation and Related Information,” “Compensation Committee Interlocks and Insider Participation” and “Report of Compensation Committee,” and is incorporated herein by reference thereto.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item will be included in the 2023 Proxy Statement under the sections captioned “Beneficial Ownership of Securities” and “Equity Compensation Plan Information” and is incorporated herein by reference thereto.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item will be included in the 2023 Proxy Statement under the sections captioned “Related Person Transaction Policy” and “Corporate Governance-Director Qualification Standards; Director Independence” and is incorporated herein by reference thereto.

Item 14. Principal Accountant Fees and Services

The information required by this Item will be included in the 2023 Proxy Statement under the section captioned “Statement of Fees Paid to Independent Registered Public Accounting Firm” and is incorporated herein by reference thereto.

PART IV

Item 15. Exhibits and Financial Statement Schedules

Item 15(a)(1) and (2) Financial Statements and Schedules

See "Index to Consolidated Financial Statements and Financial Statements Schedules" at Item 8 to this Annual Report on Form 10-K. Other financial statement schedules have not been included because they are not applicable or the information is included in the financial statements or notes thereto.

Item 15(a)(3) and Item 15(b) Exhibits

We have identified below each management contract and compensation plan filed as an exhibit to this Annual Report on Form 10-K.

Exhibit No.	Description	Filed with this Form 10-K	Incorporation by Reference		
			Form	Filing Date	Exhibit No.
3.1	Second Amended and Restated Certificate of Incorporation of Charles River Laboratories International, Inc. dated June 5, 2000		S-1/A	June 23, 2000	3.1
3.2	Sixth Amended and Restated By-Laws of Charles River Laboratories International, Inc.		8-K	December 15, 2021	3.1
4.1	Form of Common Stock certificate, \$0.01 par value, of Charles River Laboratories International, Inc.		S-1/A	June 23, 2000	4.1
4.2	Description of Securities		10-K	February 11, 2020	4.2
4.3	Charles River Laboratories International, Inc. Form of Performance Share Unit granted under the 2018 Incentive Plan		10-Q	August 5, 2020	10.3
4.4	Charles River Laboratories International, Inc. Indenture Agreement with MUFG Union Bank, N.A. as Trustee dated April 3, 2018		8-K	April 3, 2018	4.1
4.5	Charles River Laboratories International, Inc. Second Supplemental Indenture, dates as of October 23, 2019, to the Indenture dated as of April 3, 2018		8-K	October 23, 2019	4.1
4.6	Form of Note for 4.250% Senior Notes due 2028		8-K	October 23, 2019	4.2
4.7	Indenture, dated as of March 23, 2021, between Charles River International, Inc. and U.S. Bank National Association, as trustee		8-K	March 23, 2021	4.1
4.8	First Supplemental Indenture, dated as of March 23, 2021, by and among the Charles River Laboratories International, Inc., the Guarantors and U.S. Bank National Association, as trustee		8-K	March 23, 2021	4.2
4.9	Form of Note for 3.750% Senior Notes due 2029 (included with Exhibit 4.12)		8-K	March 23, 2021	4.3
4.10	Form of Note for 4.000% Senior Notes due 2031 (included with Exhibit 4.12)		8-K	March 23, 2021	4.4
4.11	Form of Senior Debt Indenture between Charles River Laboratories International, Inc. and U.S. Bank National Association		S-3	May 4, 2021	4.1
4.12	Form of Subordinated Debt Indenture between Charles River Laboratories International, Inc. and U.S. Bank National Association		S-3	May 4, 2021	4.2
10.1*	Charles River Laboratories International, Inc. 2016 Incentive Plan		10-Q	August 3, 2016	10.1
10.2*	Charles River Laboratories International, Inc. Amended and Restated 2018 Incentive Plan, dated March 20, 2018, as amended and restated May 6, 2020		10-Q	May 7, 2020	10.1
10.3*	Charles River Laboratories International, Inc. Form of Stock Option granted under the 2016 Incentive Plan		10-K	February 14, 2017	10.4
10.4*	Charles River Laboratories International, Inc. Form of Restricted Stock Unit granted under the 2016 Incentive Plan		10-K	February 14, 2017	10.7
10.5*	Charles River Laboratories International, Inc. Form of Non-Qualified Stock Option granted under the 2018 Incentive Plan		10-Q	August 5, 2020	10.1
10.6*	Charles River Laboratories International, Inc. Form of Restricted Stock Unit granted under the 2018 Incentive Plan		10-Q	August 5, 2020	10.2
10.7*	Charles River Corporate Officer Separation Plan dated April 30, 2010		10-Q	August 3, 2010	10.1
10.8*	Form of Change in Control Agreement		10-K	February 23, 2009	10.7

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

Exhibit No.	Description	Filed with this Form 10-K	Incorporation by Reference		
			Form	Filing Date	Exhibit No.
10.9*	Charles River Laboratories International, Inc. Non-Employee Directors Deferral Plan dated April 5, 2016		10-Q	May 4, 2016	10.1
10.10*	Charles River Laboratories, Inc. Executive Life Insurance/Supplemental Retirement Income Plan		10-K	March 9, 2005	10.23
10.11*	Amended and Restated Employment Agreement by and between James C. Foster and Charles River International, Inc., dated May 18, 2021		8-K	May 18, 2021	99.1
10.12*	Executive Incentive Compensation Program effective January 1, 2021		10-Q	May 4, 2021	10.2
10.13*	Charles River Laboratories amended and restated Deferred Compensation Plan, as amended		10-Q	May 4, 2021	10.3
10.14	Ninth Amended and Restated Credit Agreement, dated as of April 21, 2021, among Charles River Laboratories International, Inc., the Subsidiary Borrowers party thereto, the lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the other agents party thereto		8-K	April 23, 2021	10.1
10.15*	Charles River Laboratories International, Inc. Restricted Stock Unit Award, dated December 25, 2021 granted to Joseph W. LaPlume		8-K	December 27, 2021	10.1
10.16*	Charles River Laboratories International, Inc. Performance Share Unit Award, dated December 25, 2021 granted to Joseph W. LaPlume		8-K	December 27, 2021	10.2
10.17*†	Agreement between David Ross Smith and Charles River Discovery Research Services UK Limited dated February 15, 2022		10-K	February 16, 2022	10.18
10.18*†	Employment Offer Letter between Charles River Laboratories, Inc. and Flavia Pease, dated as of March 4, 2022		10-Q	May 4, 2022	10.1
21.1	Subsidiaries of Charles River Laboratories International, Inc.	X			
23.1	Consent of PricewaterhouseCoopers LLP	X			
31.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer	X			
31.2	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer	X			
32.1	Section 1350 Certification of the Chief Executive Officer and Chief Financial Officer	X			
101.INS	eXtensible Business Reporting Language (XBRL) Instance Document	X			
101.SCH	Inline XBRL Taxonomy Extension Schema	X			
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase	X			
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase	X			
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase	X			
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase	X			
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)				

* Management contract or compensatory plan, contract or arrangement.

† Certain information in this exhibit was omitted by means of redacting a portion of the text and replacing it with [***]

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

February 22, 2023

By: /s/ FLAVIA H. PEASE

Flavia H. Pease

Corporate Executive Vice President and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities indicated below and on the dates indicated.

	Signatures	Title	Date
By:	<u>/s/ JAMES C. FOSTER</u> James C. Foster	<i>Chairman, President and Chief Executive Officer</i>	February 22, 2023
By:	<u>/s/ FLAVIA H. PEASE</u> Flavia H. Pease	<i>Corporate Executive Vice President and Chief Financial Officer</i>	February 22, 2023
By:	<u>/s/ MICHAEL G. KNELL</u> Michael G. Knell	<i>Corporate Senior Vice President and Chief Accounting Officer</i>	February 22, 2023
By:	<u>/s/ NANCY C. ANDREWS</u> Nancy C. Andrews	<i>Director</i>	February 22, 2023
By:	<u>/s/ ROBERT J. BERTOLINI</u> Robert J. Bertolini	<i>Director</i>	February 22, 2023
By:	<u>/s/ DEBORAH T. KOICHEVAR</u> Deborah T. Kochevar	<i>Director</i>	February 22, 2023
By:	<u>/s/ GEORGE LLADO</u> George Llado	<i>Director</i>	February 22, 2023
By:	<u>/s/ MARTIN MACKAY</u> Martin Mackay	<i>Director</i>	February 22, 2023
By:	<u>/s/ GEORGE E. MASSARO</u> George E. Massaro	<i>Director</i>	February 22, 2023
By:	<u>/s/ C. RICHARD REESE</u> C. Richard Reese	<i>Director</i>	February 22, 2023
By:	<u>/s/ CRAIG B. THOMPSON</u> Craig B. Thompson	<i>Director</i>	February 22, 2023
By:	<u>/s/ RICHARD F. WALLMAN</u> Richard F. Wallman	<i>Director</i>	February 22, 2023
By:	<u>/s/ VIRGINIA M. WILSON</u> Virginia M. Wilson	<i>Director</i>	February 22, 2023

SUBSIDIARIES

Subsidiary	Jurisdiction of Organization
1 Charles River Laboratories, Inc.	Delaware
2 Charles River UK Limited	United Kingdom (England)
3 Charles River Laboratories Saint-Constant S.A.	Quebec, Canada
4 Charles River Nederland B.V.	Netherlands
5 Charles River Laboratories Holding SAS	France
6 Charles River Laboratories France C.R.L.F. SAS	France
7 BioFocus DPI (Holdings) Ltd.	United Kingdom (England)
8 Charles River Laboratories Belgium SRL	Belgium
9 Charles River Laboratories España SA	Spain
10 Charles River Laboratories Italia Srl	Italy
11 Charles River Laboratories Germany Holding GmbH	Germany
12 Charles River Laboratories Poland Sp. Z.o.o.	Poland
13 Charles River Laboratories Ireland Limited	Ireland
14 Charles River Laboratories Research Models and Services, Germany GmbH	Germany
15 Charles River Laboratories Luxembourg S.a.r.l.	Luxembourg
16 Charles River Laboratories Group	United Kingdom (Scotland)
17 Charles River Laboratories Edinburgh Ltd.	United Kingdom (Scotland)
18 Charles River ULC	Nova Scotia, Canada
19 Charles River Laboratories Montreal, ULC	Nova Scotia, Canada
20 Charles River Laboratories Australia Pty. Ltd.	Australia
21 Zhanjiang A&C Biological Ltd.	China
22 Charles River Laboratories Korea	Korea
23 Charles River Laboratories Asia Holdings Limited	Hong Kong
24 Charles River Laboratories Germany GmbH	Germany
25 Charles River Discovery Research Services, Inc.	Michigan
26 Charles River Laboratories India Private Limited	India
27 Charles River Discovery Research Services Finland	Finland
28 Accugenix Inc.	Delaware
29 Beijing Vital River Laboratory Animal Technology Co. Ltd.	China
30 Charles River Detecção Microbiana e de Endotoxina Participações Ltda	Brazil
31 Charles River Endotoxin and Microbial Detection Singapore Pte. Ltd.	Singapore
32 Charles River Endotoxin Microbial Detection Europe SAS	France
33 Charles River Laboratories Holdings Limited	United Kingdom (England)
34 Charles River Discovery Research Services UK Limited	United Kingdom (England)
35 Argenta Discovery 2009 Limited	United Kingdom (England)
36 Charles River Laboratories Cleveland, Inc.	Delaware
37 Charles River Endotoxin and Microbial Detection Israel	Israel
38 Charles River Discovery Research Services Germany GmbH	Germany
39 Celsis Group Limited	United Kingdom (England)
40 Celsis International Limited	United Kingdom (England)
41 Celsis Limited	United Kingdom (England)
42 Celsis International B.V.	Netherlands
43 Charles River Microbial Solutions Germany GmbH	Germany
44 Charles River Laboratories SA France Acquisition SAS	France

45	Charles River Laboratories France Safety Assessment SAS	France
46	CRL Safety Assessment, Inc.	Delaware
47	Charles River Laboratories SA USA, Inc.	Delaware
48	Charles River Laboratories Ashland, LLC	Delaware
49	Charles River Laboratories SA Netherlands Holdings B.V.	Netherlands
50	Charles River Laboratories I Delaware Holdings, Inc.	Delaware
51	Charles River Laboratories II Delaware Holdings, Inc.	Delaware
52	Charles River Laboratories Den Bosch B.V.	Netherlands
53	Zhejiang Vital River Laboratory Animal Technology Co. Ltd.	China
54	Charles River Microbial Solutions International Limited	Ireland
55	KWS BioTest Limited	United Kingdom (England)
56	Charles River Microbial Solutions (Shanghai) Company Limited	China
57	Charles River Laboratories Denmark ApS	Denmark
58	CRL Group International France	France
59	CRL Group France	France
60	Charles River Laboratories Evreux	France
61	Charles River Laboratories Saint Nazaire	France
62	Charles River Laboratories Hungary	Hungary
63	Charles River Laboratories Switzerland AG	Switzerland
64	Charles River Laboratories Cell Solutions, Inc.	California
65	Cobra Biologics Limited	United Kingdom (England)
66	Guangdong Vital River Laboratory Animal Technology Co. Ltd	China
67	Si Chuan Vital River Laboratory Animal Technologies Co. Ltd.	China
68	Charles River Laboratories Japan G.K.	Japan
69	Charles River Laboratories Sweden AB	Sweden
70	Retrogenix Limited	United Kingdom (England)
71	Cobra Biologics Holding Limited	United Kingdom (England)
72	MDRH Holdings, LLC	Delaware
73	Indigo, LLC	Delaware
74	Charles River Accelerator & Development Laboratories (Shanghai) Company Limited	China
75	Zhanjiang Puju Biological Co. Ltd.	China
76	SAMDI Tech Inc.	Delaware

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-255761) and Form S-8 (Nos. 333-238567, 333-225046 and 333-212507) of Charles River Laboratories International, Inc. of our report dated February 22, 2023 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
February 22, 2023

**CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002
AND RULE 13a-14(a)/15d-14(a) OF THE EXCHANGE ACT OF 1934**

I, James C. Foster, Chairman, President and Chief Executive Officer of Charles River Laboratories International, Inc. (the registrant) certify that:

1. I have reviewed this annual report on Form 10-K for the year ended December 31, 2022 of the registrant;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ James C. Foster

James C. Foster
Chairman, President and Chief Executive Officer
Charles River Laboratories International, Inc.

February 22, 2023

**CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002
AND RULE 13a-14(a)/15d-14(a) OF THE EXCHANGE ACT OF 1934**

I, Flavia H. Pease, Corporate Executive Vice President and Chief Financial Officer of Charles River Laboratories International, Inc. (the registrant) certify that:

1. I have reviewed this annual report on Form 10-K for the year ended December 31, 2022 of the registrant;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Flavia H. Pease

Flavia H. Pease
Corporate Executive Vice President and Chief Financial Officer
Charles River Laboratories International, Inc.

February 22, 2023

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report on Form 10-K for the year ended December 31, 2022 of Charles River Laboratories International, Inc. (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, James C. Foster, Chairman, President and Chief Executive Officer of the Company, and Flavia H. Pease, Corporate Executive Vice President and Chief Financial Officer of the Company, each hereby certifies, to the best of his knowledge and pursuant to 18 U.S.C. Section 1350, that:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act"); and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 22, 2023

/s/ James C. Foster

James C. Foster
Chairman, President and Chief Executive Officer
Charles River Laboratories International, Inc.

February 22, 2023

/s/ Flavia H. Pease

Flavia H. Pease
Corporate Executive Vice President and Chief Financial Officer
Charles River Laboratories International, Inc.

This certification shall not be deemed "filed" for any purpose, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Exchange Act.